IDENTIFICATION OF FACTORS WHICH CONTRIBUTE TO THE POST-SECONDARY EDUCATIONAL ATTAINMENT OF MALE MILITARY ENLISTEES: EVIDENCE FROM THE NATIONAL LONGITUDINAL STUDY

by

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ABSTRACT

Title of Dissertation: IDENTIFICATION OF FACTORS WHICH CONTRIBUTE TO THE POST-SECONDARY EDUCATIONAL ATTAINMENT OF MALE MILITARY ENLISTEES: EVIDENCE FROM THE NATIONAL LONGITUDINAL STUDY

Stephen E. Wright, Doctor of Philosophy, 1989

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The purpose of this study was to identify factors which contribute to the post-secondary educational attainment level of male military enlistees.

The research problems were:

1. When socioeconomic status/family background factors, educational aspiration factors, educational/academic performance factors and military factors were considered separately, how did each factor relate to the post-secondary educational attainment of male military enlistees.

2. When socioeconomic status/family background factors, educational aspiration factors, educational/academic performance factors, and military factors were considered jointly, how did they relate to the post-secondary educational attainment of male military enlistees?

The sample for this study was taken from the National Longitudinal Study (NLS). The selected 845 sample was tracked from the NLS 1972 base year survey through the 1979 fourth follow-up survey.

Multiple regression analysis was the analytical tool selected for analyzing the data within this study.

Besides the overall significant relationships between socioeconomic status/family background, educational aspiration, educational/academic performance, military factors, and educational attainment, the results of this investigation revealed that a number of individual independent variables were important predictors of educational attainment. It was found that mother's educational aspirations for children, mother's education, father's occupation, high school grade point average, student aptitude, student high school program, reason for entering the military -- to receive in-service college education, and educational plans after military service -- college were individually all significant predictors of educational attainment of male military enlistees.

DEDICATION

In memory of my parents

Kennard H. Wright Sr.

and

Edna Cook Wright

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CHAPTER I

INTRODUCTION

Background

Since the advent of the all-voluntary armed forces (AVF) and the expiration of the 1976 GI Bill, the Department of Defense has committed a substantial sum of monies for advertising and image-building for the purpose of volunteer recruitment. "Be all that you can be"; "The Army gives you an education you can't get anywhere else"; and, "Earn up to $25,000 for college with the new GI Bill, plus the new Army college fund" are sample messages advanced by the U.S. Armed Forces Recruitment Program. Are the military benefits and slogans espoused in the armed forces advertising campaign realistic or valid for assisting enlistees with achieving higher levels of educational attainment? Does military participation hinder future educational attainment of military enlistees? How does family socioeconomic status/family background, educational aspirations, educational/academic performance and military factors explain future educational attainment of military enlistees?

The purpose of this study was to identify factors which contribute to the post-secondary educational attainment of male military enlistees. To this end, an examination of the military enlistee's socioeconomic status/family background, educational aspiration,

education/academic performance and military factors on educational attainment was undertaken. Sets of independent variables or factors which explain or make understandable the educational attainment level of military enlistees were examined individually and in unison.

The educational attainment level of enlistees is important. Not only does educational attainment level determine a person's occupational status, it often is a reflection of the economic contribution a person will make to society (Sewell and Hauser, 1975). Insight on how economic status/family background, educational and military factors associate with the level of future educational attainment achieved will assist families, recruiters, and potential enlistees in making an informed decision to enlist or not to enlist based on their own personal or individual social and educational characterization.

The All-Volunteer Armed Forces

Members of the high school class of 1972 who enlisted in the armed forces immediately after high school went in during a unique and challenging time -- the emergence of a peacetime (post-Vietnam) armed forces. The draft was ending and the all-volunteer armed forces (AVF) was being debated and phased in. Critics of the AVF charged that such a force would lead to a military over-represented by the uneducated and

the poorly educated recruit -- since the better educated or highly qualified youth would pursue other career and education options (Binken et al, 1982). Critics also insisted that blacks and the poor would be over-represented; a decline in national patriotism would occur, and a general destruction of overall military effectiveness would materialize as a result of enlisting large numbers of low-quality (low ability) recruits (Binken et al, 1982).

The primary criticism or concern of the AVF critics was whether the armed services could attract an adequate quantity and quality of AVF recruits (Binken et al., 1982).

Recruit Quantity

Since 1972/1973, national economic history has helped quiet the AVF "quantity" critics. The inflationary economy and high youth unemployment of the 1970's and 1980's produced an armed services recruitment context where young recruits hurried to volunteer. Dale and Gilroy (1984) report that national unemployment rates lead to substantial increases in Army enlistments. The military has had little difficulty attracting the number of persons needed to retain an adequate standing armed forces (Binken et al, 1982). Cooper's research (cited in Goodpaster et al, 1982) verified this point when he reported that:

> Recruiting 350,000 to 450,000 new recruits each year and sustaining an active military

> force of more than 2 million personnel without a draft, as the military has done since 1972, is clearly an accomplishment of major proportions that has not been duplicated elsewhere.

Besides the fluctuating economic conditions of the 1970s and 1980s, researchers have identified other reasons why young adult have enlisted into the military in sufficient numbers. Segal and Bachman (1978) report that historically the opportunity to gain advanced education and training in the armed forces has been a main motivator for military enlistments. Kuvlesky and Damerson (1971) argue that:

> If the disadvantage [lower class] youth view the military service as an opportunity for mobility, it is in terms of its value as an educational experience which will facilitate subsequent job and income attainments outside the military.

Faris (1984) argues that recruits enlist for reasons other than financial incentives. Besides vocational training, educational opportunity, personal development and travel, they enlist to consummate fundamental family values. "Family tradition and the ethic of national service" (the belief that because dad served in the military "I", the son must serve) becomes the attracting force which draws enlistees into the military. Faris (1984) supports his argument with data from the National Longitudinal Survey and the 1978 Department of Defense Personnel Survey. These data indicate that families where fathers were military careerists are twice as likely to have sons which become service careerists.

Faris (1984) also points out that any adult who has experienced a positive relationship with the military has the propensity to transmit these values to other relatives, friends and neighbors -- thereby becoming influential agents in military recruitment. Research conducted by Dale and Gilroy (1984) reveal that educational benefits and relative increases in military pay compared to civilian pay also attract enlistees. Shyles and Ross (1984) disclosed that military training and education benefits were the most common inducements mentioned in the 75 AVF recruitment brochures they surveyed.

The armed forces' advertising campaign has enticed many potential recruits to sign up. The altruistic context of the armed forces' advertising has promised recruits many tangible benefits for their service: travel and adventure -- "See the world"; military and civilian job training -- "Learn a valuable skill and earn a certificate to document it"; camaraderie and friendship -- "People and places"; "Add travel and friendships to your . . . package"; physical development -- "You build your body"; "You sharpen your mind"; monetary security and stability -- "Excellent starting salary with regular pay raises"; "Complete medical care and living quarters"; self-esteem -- "Be all that you can be"; "Aim high," and educational benefits -- "Earn up to $25,000 for college" (Shyles and

Ross, 1984; U.S. Army, 1985; and U.S. Air Force, 1985).

Recruit Quality

Unlike the quantity issue or the ability of the AVF to attract personnel, the ability to attract quality recruits continues today as a conversational and major issue of debate. Since "quality" is such a relative term, many AVF critics have had difficulty agreeing on what characteristics constitute a quality recruit. Quality recruits as far as the armed forces are concerned are individuals who have graduated from high school and have scored well on the Armed Services Vocational Aptitude Battery (ASVAB). The armed forces generally assumes and accepts the assumption that average or greater mental aptitude test scores and the possession of a high school diploma are positive indicators for predicting the likelihood of trainability and success in the military (Goodpaster et al., 1982). Not everyone agrees with these assumptions. Major Edward Gentry of the U.S. Army, a recruitment specialist and administrator of the ASVAB test to potential high school recruits, argued, in an interview with this writer, that blacks and other minorities tend to score lower on the ASVAB than whites because the mental aptitude test is culturally biased against minorities, specifically blacks and Hispanics. In a study commissioned by the Department of Defense (DOD) with Dr. R. D. Bock, it was found that the ASVAB test is

free from major defects such as "inappropriate levels of difficulty and cultural test-question bias" (Profile of American Youth, 1982). Binken et al (1982), denotes that the issue of ASVAB cultural test-question bias or validity will continue to be an issue far from settlement. One side will continue to put forth the premise that "The ASVAB, imperfect though it may be, remains the best instrument available for selection purposes . . ." While the "other side [will] hold that [the] aptitude testing as now constituted does discriminate against blacks and other minorities. . . " (Blinken et al., 1982). As Goodpaster (1982) aptly expressed:

> A large part of the reason for this debate is that, unlike the quantitative performance of recruiting, where reliable numerical evidence exists, there is no universally accepted measure of quality.

In any event, defining "recruit quality" or coming to an adequate definitional consensus between AVF critics, military recruitment and retention specialist and military researchers may take years to resolve-certainly a debate which will continue into the future.

Competition For Potential AVF Recruits

As the American society ages the available number of 18 year olds for colleges, business industry and military service will decrease. Arbeiter (1985) suggests that the number of 18 year olds will decline by 718,000 from 1983 to 1994. This will produce a

situation where colleges, business industry and the armed forces will find themselves in the midst of fierce competition for a declining commodity -- the quality/talented high school graduate. In an article on Army basic skills and educational development efforts, Anderson (1982) concurs with Arbeiter's statements concerning the shrinking U.S. population and the subsequent shortage of competent armed forces recruits. Anderson (1982) also states that as military weapon systems become more and more complex the greater the need for service accessions which can be taught the necessary technical skills required to operate these advance weapon systems. As for business and industry competition, Arbeiter (1985) believes employers accustomed to employing a specific number of high school graduates in the face of this declining population will begin to increase starting salaries of high school graduates -- particularly the top class graduates. The result will mean a greater number of graduates opting for business/industry employment and not military service or college.

Significance of the Study

Potential direct from high school enlistees (DFHS) are usually 17 to 19 years of age. At this age, most potential DFHS enlistees have reached a critical developmental life stage. As characterized by Cross (1981), this young person has reached a point in life

where leaving home, establishing independence from family, defining one's identity and sex role, and establishing new peer relationships are important. It is during this "Leaving Home" stage when young adults make radical life decisions like: Should I go to college, enlist into the military, or find a job? Colarusso and Nemiroff (1981) disclose in their adult development text that youth between the ages of 17-22 are most concerned with "resolving the dependence of adolescence and trying to establish the self-reliance of early adulthood."

As young adults quest for life stability and structure during the early adult life stage they are vulnerable and influenced by outside demands and self imposed pressures. At this stage their self concept and decision-making capacity is being shaped, influenced or modified by self and others (Colarusso and Nemiroff, 1981). A major developmental issue at this stage of adult development is identity formation (Colarusso, 1981). Guidance provided by guidance counselors can have a lasting impact on identity formation and on how and what young adults select as educational career paths. It is the role of the guidance counselor to ensure that young adult will be able to make the "wisest and most appropriate" educational and/or career decisions possible (Isaacson, 1971).

An important element which enables guidance

counselors to assist individuals is their trained ability to effectively collect, analyze, evaluate and disseminate concise, relevant and timely information. Other than "trained ability" the key word here is "information." Without maintaining up-to-date educational and career information guidance counselors would be unable to effectively do their jobs. As a consequence they may unknowingly contribute to the long-term limitations of an individual's future life chances based on poor advice and information.

For young adults who have never served in the military, pre-military educational aspiration levels was a measure of recruit quality. Fredland and Little (1984) assert that persons with low educational aspirants will not fair in the military as well as persons with high educational aspirants. Based on Fredland and Little, the military would best be served if it enlisted "quality" recruits with high educational aspirations. Information which would provide knowledge to the recruitment specialist would be an important, relevant and helpful contribution. A military recruitment specialist may expect military enlistees with low educational aspirations not to acquire significant educational attainment during their respective military service or be as trainable as high educational aspirants. Possibly a situation which may have impact on the military's abilities to train a

specific individual. However, a military recruit with low educational aspirations exposed to armed forces discipline and successes may be motivated enough to achieve higher levels of educational attainment (a university degree). The incoming recruit having high educational aspirations may become so wrapped up in military training that his university plans and subsequent educational attainment would be negatively effected. Or enlistees who enlist with high educational aspirations may enlist only to acquire enough economic resources and GI benefits to pursue higher levels of educational attainment. According to Fredland and Little (1984) the military would have a problem retaining or re-enlisting the recruit who was only interested in using the GI benefits to pursue higher levels of educational attainment.

Family life experiences and environment (family socioeconomic status, parental education level, etc.) play a critical role in influencing young adults on whether to select immediately after high school a career, additional schooling or military service. Parental ambitions or expectations for their children also assist in the establishment and development of adolescent and young adult educational and career aspirations (Hurlock, 1973). Since the military does not concentrate on prior enlistee information, data and knowledge on the influence of family life experiences

is extremely rare. Findings presented in this study may assist parents of perspective recruits and the military on whether a particular recruit should or should not enlist into the armed forces by providing additional information for logical decision-making.

The primary audience for findings generated from this study would include adult educators, high school counselors, parents, high school students, military recruitment specialist and planners, and military trainers. It was envisioned that findings from this study would assist professionals and laymen in the creation, and the deletion of present and future military enlistee policies.

Purpose of the Study

The purpose of this study was to identify factors which contribute to the post-secondary educational attainment level of military male enlistees. By examining how socioeconomic/family background factors, educational aspiration factors, educational/academic performance factors and military factors relate to educational attainment.

Statement of the Problem

Problems

1. When socioeconomic status/family background factors, educational aspiration factors, educational/academic performance factors and military factors were considered separately, how did each factor relate to

the post-secondary educational attainment of male military enlistees?

2. When socioeconomic status/family background factors, educational aspiration factors, educational/academic performance factors, and military factors were considered jointly, how did they relate to the post-secondary educational attainment of male military enlistees?

Research Questions To Be Investigated

In order to explore or investigate the research problems of this study, the following research questions were developed.

Problem Research Questions

1. When socioeconomic status/family background factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

2. When educational aspiration factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

3. When educational/academic performance factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

4. When military factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

5. When socioeconomic status/family background factors, educational aspiration factors, educational/academic performance factors, and military factors were considered in unison, how did they relate to the post-secondary educational attainment of male military enlistees?

Research Assumptions

Survey research does not allow for direct measurement of human behavior but does permit indirect measurement of behavior (Babbie 1973). Therefore, it is assumed that the survey questions asked in the National Longitudinal Study and the responses given are adequate representations and reliable measures of indirect respondent behavior. It is also assumed that provided survey answers or responses are truthful.

Research Limitations

Research data manipulations and analysis interpretations are restricted to the 1972-1979 Longitudinal Study time frame. Generalizations derived from this researcher's analysis should be restricted to United States male armed forces enlistees -- since females were omitted from this analysis. Research questions operationalized for this study are dependent upon questions developed and asked by the National Longitudinal study designers.

Definitions of Terms

1. Accession(s) - is a term used in this study to

mean the rate of enlistment(s) into the Armed Forces.

2. Armed Forces - refers to United States Armed Forces, included under this term are the United States Air Force, Army and Navy, and all other military components administered by these services (i.e. Marines).

3. Educational Aspirations - is the level of education a person would like to acquire.

4. Educational Attainment - refers to the amount of education a person has acquired over a specific time period.

5. Factors - is a term in this study which means set or sets of independent variables.

6. Military - is defined in this study the same way in which Armed Forces is defined.

7. Military enlistee - is defined as a person who joined the U.S. Military.

8. Educational Performance or Ability - refers to success or how well an individual did in high school based on their grades and standardized tests.

9. Socioeconomic Status or SES - refers to the societal income level of a particular household.

Organization of the Study

The study was organized into five chapters:

Chapter 1. The introduction include the background, Significance of the Study, Purpose of the Study, Statement of the Problem, Research Questions to

be Investigated, Research Assumptions, Research Limitations and Definition of Terms.

Chapter 2. The Literature Review includes a review of the literature related to the study and the Theoretical Framework.

Chapter 3. The Methodology includes the Source of Data, Primary Data, Study Design and Variable Operationalization.

Chapter 4. The Findings include the findings derived from the analysis of this study's data.

Chapter 5. The Summary, Discussion and Conclusions includes a summary of the study, implications, future research recommendations, and conclusion.

CHAPTER II

REVIEW OF THE LITERATURE

Educational Attainment: Its Relevance

> Among the fastest-growing jobs, the trend toward higher educational requirements is striking. Of all the new jobs that will be created over the 1984-2000 period, more than half will require some education beyond high school, and almost a third will be filled by college graduates. (Johnson, 1987, p. 97)

Educational attainment is one of society's most important values, a value which is translated into occupational and economic success (Wolfle, 1985). Normally, the degree to which an individual is able to compete economically in the American society is predicated on the level of educational attainment he or she is able to achieve (Sewell and Hauser, 1975).

The educational attainment level of the American labor force has grown tremendously (Rumberger, 1984). Between 1960 and 1980 the number of persons earning a college degree or better has increased by 200 percent (Rumberger, 1984). Today, 22 percent of all occupations require a college degree (Johnston 1987). Today, 42 percent of all current jobs require one or more years of college; 40 percent require high school completion, and 18 percent require less than high school completion (Johnston, 1987). By the year 2000 an even higher level of educational attainment will be required to enter the labor force. Fifty-two percent of all new occupations will require one or more years of college; 35 percent

will require high school completion, and 14 percent will require less than high school completion (Johnston, 1987).

In the future an individual's educational attainment level will continue as an important determinant of occupational selection, status and subsequent economic success. Johnston (1987) supports this notion when he states that:

> Very few new jobs will be created for those who cannot read, follow directions, and use mathematics. Ironically, the demographic trends in the workforce, coupled with the higher skill requirements of the economy, will lead to both higher and lower unemployment: more joblessness among the least-skilled and less among the most educationally advantaged.

As Johnston (1987) indicates, educational attainment means more than just simply achieving a specific level of education. The level of educational attainment represents the potential life cycle well-being of an individual. Throughout the focus of this literature review, variables which explain educational attainment will be discussed, along with findings from Prior educational attainment research and analysis.

Socioeconomic Level and Family Background

Socioeconomic status has been well emphasized in the literature as a predictor or explanatory variable of educational attainment (Sewell and Shah, 1967; Duncan et al, 1972; Portes and Wilson, 1976; Scarr and Weinberg, 1978; Stafford, 1984).

Sewell and Shah (1967) found that socioeconomic status plays an important role in determining whether a person makes college plans. They assert that college plan(s) was a significant predictor of educational attainment. In addition, Sewell and Shah (1967) found that socioeconomic status has a greater effect in determining whether a person planned to go to college than did intelligence.

Sewell and Shah (1967) also determined that socioeconomic status was significantly associated with college attendance. In the low socioeconomic status category only 20.5 percent of males in their study went to college, versus 73.4 percent for the high socioeconomic status males. Socioeconomic status differences are also reflected in graduation from college statistics. Ten times more high socioeconomic males (73.4 percent) graduated from college compared to low socioeconomic status males (7.5 percent).

Stafford et al (1984) also found that socioeconomic status was a significant predictor of educational attainment. The higher the family's personal income and years of parent formal education, the greater the likelihood of sibling educational participation.

When focusing in on black males, Wilson (1987) found that mother's education was a significant predictor of educational attainment. Wilson found that the higher the amount of mother's formal education, the

higher the sibling's educational attainment.

Unlike other researchers (Sewell and Shah, 1967; Stafford et al, 1984; Wilson, 1987 Robertshaw and Wolfle 1983) found that while socioeconomic status was important, it was not as important as "race" in determining educational attainment. After comparing the educational attainment levels for black and white youths of similar socioeconomic status, he found that the educational attainment level was not the same for both races. Two major discrepancies existed and separated the youths by racial group. The first discrepancy was educational attainment goals between blacks and whites. Whites had higher educational attainment goals than did blacks. The second discrepancy focused on the fact that blacks and whites start out in life with unequal economic resources.

Unlike Wolfle (1985), Osborn (1948) compared students from different socioeconomic backgrounds. Osborn did this to discern how intellectual performance related to social and economic background. Osborn reports that a relationship did exist between socioeconomic status and intellectual performance. He found that students who performed best academically, were most likely to come from family backgrounds which were characterized by high median incomes, highly educated parents, geographically from larger hometowns, had more modern convenience and traveled extensively.

Osborn's data also suggest that the intellectually superior students were from families who devoted more time per day reading the daily newspaper and in general, had better reading facilities (magazines and books in the family library).

Sewell and Hauser (1975) findings show that socioeconomic background effects intellectual ability and that the combination of both socioeconomic background and ability directly affects educational attainment. The more positive the socioeconomic background and the higher the ability, the greater the expected educational attainment. Robertshaw and Wolfle (1983) assert from their research findings that "father's education and mother's education have positive (and significant) effects on education." They found that the higher the father's and mother's education, the greater the predicted educational attainment of their siblings.

Academic Performance Factors

There have been numerous examinations of academic performance and/or student ability. The following discussion details several of these studies and their findings and implications.

Temple and Polk state that a college degree is the result of seven steps in the attainment process. These steps are:

1. High school success. A high school diploma is

more than just grades. It includes grades, activities and a resulting positive self-concept if the graduate was successful.

2. College planning. Two-thirds of those planning to go to college do indeed attend. This step is paramount for admission. It heightens expectations and, hence, success.

3. Early entrance. Early entrance to college -- entrance right after high school -- works toward a successful college experience. Fifty-four percent of graduates opt for this type of college entry.

4. Late college entry. Nineteen percent of students enter college later. Seventy-seven percent of students who plan to enter college late never do.

5. Dropping out of college. Fifty-six percent of students leave before they graduate.

6. College graduation. Thirty-seven percent of students graduate before the age of 31.

7. Graduate or professional school. Forty-one percent of college graduates attend graduate or professional schools.

Temple and Polk (1986) detailed these steps because they disagreed strongly with other researchers (Rosenbaum, 1976) who asserted that educational attainment is like a single elimination tournament. By this he meant that once you left school, you were out for good.

Temple and Polk (1986) propose that a college degree is the result of success at each of the above steps. They believe that early success does not always result in good academic performance later or a college degree. Their study revealed that many unsuccessful candidates went back into the educational system and were successful at this later time. They conclude with this statement: "There is a main path of educational success. Those who deviate jeopardize completion and success" and subsequent educational attainment.

Robertshaw and Wolfle (1983) examined what indeed happens to people when they interrupt their academic careers. Their study investigated educational discontinuities among male and female American blacks and whites and found that higher grades and mental ability in high school leads to higher levels of post-secondary educational attainment.

Like Featherman and Carter (1976), Robertshaw and Wolfle assert that the steps in the educational process are not the only factors to consider. They contribute that the "timing of events is just as important as events"; that is, the delay and interruption of college is as important a consideration as student ability. After examining the variables; 1) delaying college, 2) once enrolled, interrupting college, and 3) educational attainment they found delaying college had different effects on different groups. For white males, the

delaying college meant that it took them an additional six months to complete their degree, if they did so at all. For white females, on the other hand, it took them twice that amount of time, one additional year on an average to complete their programs. In summary delay and interruption of college negatively affects educational attainment.

Intelligence is probably the single most important factor outside of socioeconomic status in determining academic performance. Sewell and Shah (19867) propose that: "For only those who attended college, intelligence was more important than socioeconomic status in determining who would go to college and graduate." Their findings in support of this statement are: 6.3% of males with low intelligence attended college, while 90.7% of males with high intelligence attended college.

Osborn (1948) found, however, that intelligence was second to cultural and educational background in determining how one performed once enrolled in college.

Educational Aspirations Factors

An aspiration is a desire for something better. It is a goal that is intensely personal and significant (Hurlock, 1973). Because aspirations can by definition be both abstract and intense at the same time, they are the blueprints for dreams.

According to Hurlock (1973) there are four types of

aspirations. Negative aspirations are really desires to avoid failure. Positive aspirations reflect goals of achieving success. Immediate and remote aspirations signify more than their temporal labels indicate. An immediate aspiration is less important to a person's future and can be easily swayed. A remote aspiration, on the other hand, is set in the far future and may not be a realistic hope. The more immediate an aspiration, the more realistic it probably is.

The strength of an aspiration rests with how important it is to the individual. Usually the more important an aspiration is, the harder it is to reach. The stronger an aspiration, the greater is the individual's willingness to do things he has little interest in doing (Hurlock, 1973). Individuals who go into the military to get the necessary funds to pay for a delayed college career, are examples of individuals who have strong remote aspirations.

Aspirations are either realistic or unrealistic. Realistic aspirations are based on past successes and failures, while unrealistic aspirations are often not founded in fact and are easily swayed as a result.

Hurley asserts that aspirations are influenced in a number of different ways. Aspirations are often dependent on a person's early training (Hurlock, 1973). As with Hurlock, Bell (1963) also researched the processes in the formation of adolescents' aspirations.

Bell focused on intensely on the development of aspirations in early life. In explaining how male adolescents developed aspirations, Bell considered parental, educational, and occupational motivation, and the interactions of the youths with other in higher status reference groups. Bell found that the aspirational levels of high IQ males was positively associated with motivational directives of parents and interactions with higher status reference groups. In other words, those individuals who have the ability to live up to their parents and higher status group reference usually do.

Parental ambitions help determine aspirations. Parents may want to live through their children or compete with other parents using their children as examples of what good parents they are because of their children's successes (Hurlock, 1973). Scarr and Weinberg's (1978) study on family background and intellectual attainment points out that parents have realistic aspirations for their children because parents, children and siblings share the same genetic differences. They state that these differences "among families account for the major part of the long term effects of family background . . . "

In contrast, Alexander and Campbell (1964) recognized that parental influence was not the only factor in aspiration development. It was ascertained

that students at a higher status level attended college when their best friends did.

Cohen's (1983) study asserts that parental influences are far more important than peer influences. This analysis employs a control for initial influence similarity between friends. Cohen says that the reason peer influence on aspirations have traditionally been considered to be so important, was that no one had ever looked at a person's beliefs or aspirations before the friendship developed and the parents were the main agents of influencing aspirations. Cohen found that peer influence in some research findings had been over estimated. In some cases by as much as 100 percent.

The findings of Davies and Kandel's study (1981) reflected that parents have stronger influence than best friends and that the influence of parents relative to that of best friends increases during the adolescent years.

Hurlock (1973) states that the expectations of significant outsiders help to determine aspiration development. Teachers, group leaders, and athletic coaches, as well as peers, belong to this group. Because people strive to be accepted by groups they belong to, significant outsiders are important and influential when aspiration develop is considered.

Competition with others is also a motivating factor in aspiration development, according to Hurlock (1973).

This competition can take place in the family or between friends. In a family, aspirations are developed or motivated as an outcome of sibling rivalry. Friends often decide which areas they will do well in and then compete against each other in a specific arena. This could be from academics to athletics.

Are aspirations viewed similarly by all groups of people? Morracco, Wilson and Floyd (1981) investigated the occupational aspirations of a group of women enlisted in the United States Army. Morracco et al felt that women pursuing careers in traditional male fields would serve as the best control between the sexes that is available. The study, however, reflected that men in the sample group scored considerably higher on the Occupational Aspiration Scale. With these results, Morracco, Wilson and Floyd questioned the data and scale for sexual bias and concluded that aspirations are different because of socialization of the sexes.

Gist and Bennett (1963) studied aspirations of Negro and white students to see if there was evidence of a black sub-culture in the United States which was fundamentally different from middle class 'white' culture. Findings from this study did reflect great differences between occupational aspirations for blacks and whites of both sexes. When the study controlled for IQ and social class origin, black females exceeded white males and females for occupational aspirations. All

blacks exceeded whites in belief that education could change their lives. While whites did change their minds more often about seeking higher education, they kept and shared the same educational aspirations as blacks. Gist and Bennett concluded that there was not evidence to point to a sub-culture where attitudes toward aspirations were concerned.

Bennett and Gist (1963) also examined class and family influences on student aspirations. The two groups examined were urban high schoolers from different social classes. They found that peer influence, intelligence, and independence training influenced socioeconomic mobility orientations of both male and female adolescents. When considering occupational aspirations, fathers had a greater effect on female siblings than male siblings. However, maternal influences on aspirations were found to be greater on both males and females in lower socioeconomic classes.

Military Factors

There have been few studies focusing on the influence of military service as a mediating factor to subsequent educational attainment levels. Those studies that have researched this issue have provided an array of interesting insights on how military service and educational attainment level relate. Binken (1982), Kolstad (1986) and Mason (1970) have concluded that military service has had a positive effect on

educational attainment for veterans was found to be greater than that discerned for non-veterans.

Mason (1970) collaborates these findings. When he reported that the educational level of veterans was greater than that of non-veterans. Cohen et al (1986) reveal the opposite finding. Cohen et al (1986) found that military experience had a negative effect on education attainment. The Cohen et al (1986) indicate that respondents who did not have military experience completed an average of 15.2 years of education while those who served averaged one year less education. However, when they analyzed the data from an all-military subsample comparing the number of months served to educational attainment level, the relationship revealed was positive. That is, the longer the military service tenure, the greater the educational attainment level achieved. Cohen et al (1986) state that:

> This positive educational effect of the duration of military service contradicts the interference hypothesis [that is, military service negatively impact educational attainment] and suggests, on the contrary that the longer the duration of military service, the more GI educational benefits were accumulated and the greater the eventual level of educational attainment.

After controlling for rank (officer vs. enlisted), the authors concluded that rank rather than length of service accounted for the variance in educational attainment.

In an investigation of educational levels,

aspirations and expectations of military and civilian males, ages 18-22, Fredland and Little (1984) revealed that the educational attainment level among white servicemen was less than their civilian counterparts (except for the 18 year old, as would be expected). When white military and non-military subjects having no more than 12 years of education were examined, it was found that military subjects averaged more education (11.53 vs. 11.34 years) than their non-military contemporaries.

Fredland and Little (1984,) also examined black military and non-military subjects and found that blacks in the military average significantly more education than blacks who did not enlist in the military.

In a study conducted on blacks in the military, Binken (1982) reports that while black recruits have not done as well as white on "pencil-and-paper tests," blacks have surpassed whites in educational attainment level. How prior military educational attainment level influences future educational attainment during and after military service is uncertain. Because of a lack of recent longitudinal data, few studies have addressed this issue. However, Kolstad's (1986) study indicates that while young men are in the military their self-discipline, their resources (educational funding) and motivation may change. As a result, "as they leave the military, veterans [would] evaluate their skills against

the needs of the labor market and may make adjustments by attending more school or acquiring more training."

Kolstad (1986) and Segal and Bachman (1978) argue that the military have attracted many recruits because of the educational opportunities the military can provide. Segal and Bachman (1978) state that "the opportunity to get advanced education and training has historically been a major motivation for enlistment in the armed forces." Kolstad (1986) argues that many young enlistees "see their service in the context of their educational plans for the future." Kristiansen (cited by Segal and Bachman, 1978) found 24 percent of their enlistment sample (605 men) indicated that using the GI Bill for further education was the reason for their enlistment. Using the National Longitudinal Study of the High School Class of 1972, Richard Z. Eiseman and others (1975) report that 36 percent of the whites and 57 percent of the blacks who planned to join the service were influenced by the GI Bill incentive. As Jere Cohen et al (1986, JPMS) lament:

> Perhaps the greatest influence of the military on American educational attainment has been the GI BIll of Rights, which enabled veterans serving between 1940 and 1976 to earn noncontributory educational assistance benefits. . . .

Even though the GI Bill represents an important financial incentive for achieving additional educational attainment, other intervening variables influence educational attainment. Kolstad (1986) found that those

veterans who left the military at average or below pay grade levels were not likely to return to school or use the GI Bill. Kolstad (1986) also found that the veteran's Armed Forces Qualifying Test (AFQT) test score influenced veteran school enrollment. The higher the AFQT score the greater the likelihood of further school enrollment. However, the AFQT test score did not relate to the utilization of the GI benefits.

Theoretical Framework

Historically, the American education model has mandated that all citizens be educated and that education should exist primarily in public institutions without any one group having undo influence over the system. Based on this model, no citizen would be restricted from the right of educational participation (Duker and White, 1973). The American educational model not withstanding, the reality is that educational opportunity and attainment have varied.

In this regard, the study of educational attainment and its processes have taken many forms (Gottfredson, 1981). The variables selected and the analysis methods chosen by researchers have been numerous. Typically, studies which looked at explaining educational attainment have done so using multi-variate analysis. Multi-variate analysis has been preferred because of its explanatory powers and its ability to allow for the simultaneous examination of two or more variables.

The multi-variate method most chosen by educational attainment researchers has been multiple regression analysis (a method of analyzing the contributions of two or more independent variables to one dependent variable (Kerlinger, 1973).

Based upon a thorough review of the literature, it was concluded that the most consistently used independent variables in explaining educational attainment were socioeconomic status, academic performance, educational aspirations, and family background.

Reflecting on a few theoretically important studies: Sewell and Shah (1967) found that the effect of intelligence was more important than socioeconomic status in explaining the level of educational attainment. Sewell and Hauser (1975) assert that socioeconomic background and student ability were the most important factors in explaining educational attainment. Sewell and Hauser (1975) assert that socioeconomic background and student ability were the most important factors in explaining educational attainment. Portes and Wilson (1976) found that socioeconomic level, mental ability and academic performance were important in explaining the educational attainment of whites and conversely the relative impact of self-esteem and educational aspirations were more important for blacks. Stafford et al (1984) state that

economic, social and psychological factors were the most important explanatory variables of higher educational participation and subsequent educational attainment. Gottfredson's (1981) LISREL Model of educational attainment included socioeconomic, mental ability, academic performance, significant others influence and educational aspirations as the most important variables for explaining educational attainment. The conceptual development and subsequent design of the LISREL model of educational attainment was predicted on the predictive powers of the preceding independent variables in explaining educational attainment. Fredland and Little (1984) assert that educational aspirations and expectations (plans) were important variables in explaining the educational attainment level of black, white and hispanic male military enlistees.

A major difference of this study over similar studies on educational attainment of military enlistees (Fredland and Little, 1984 and Cohen et al, 1986) was that this study included military service factors which considered education and training while enlistees were in the military.

CHAPTER III

METHODOLOGY

Source of Data

The data used in this study were from the National Longitudinal Study of the High School Class of 1972 (National Longitudinal Study or NLS). Additional information supporting this study were gathered from literature cited in the reference section of this study and unstructured telephone and in-person interviews with specified military officials.

The NLS data was generated for the United States Department of Education under contract supervision by the National Center for Education Statistics (NCES). The National Longitudinal Study was a collection of longitudinal data, i.e., data collected on specific research elements (individuals, school systems and/or institutions) over a specified period of time. The initial NLS survey was conducted in the Spring of 1972. Subsequent follow-up surveys were conducted in 1973, 1974, 1976 and 1979. The National Longitudinal Study was designed to serve as an observational tool, for investigating the educational, vocational, personal plans, aspirations and attitudes of adolescents/young adults as they transitioned from high school into their respective adult life cycles (Riccobono et al, 1981, Vol 1).

The National Longitudinal Study was selected as the primary data source because of its design structure, utilization cost and purpose, and because its flexible utility allowed for the exploration and description of how socioeconomic/family, educational aspirational and military factors influenced the educational attainment of young military enlistees. The design structure of the NLS was advantageous because the data collected over time allowed for the time-dependent investigation of relationships between late adolescent life experiences and subsequent early adult life cycle outcomes. Another advantage of the NLS design structure was that it allowed for the making of research generalizations at a national level. The NLS data file was well documented. As a consequence, variables were easily generated and flexibility manipulated by the statistical package utilized.

Research Data

The National Longitudinal Study Sample Design

The NLS collected data on twelfth graders during the 1971-1972 school year from all 50 states and the District of Columbia using a stratified, two-stage probability sample design.

The first-stage sampling frame consisted of a list of U.S. high schools. This sampling frame was generated from computerized school files maintained by the Office of Education and the National Catholic Education

Association. These school files were divided into 600 final strata based upon the following variables:

> Type of control (public or non-public), geographic region (Northeast, North Central, South, and West), grade 12 enrollment (three size categories), proximity to institutions of higher learning (3 distance categories), percent minority group enrollment (8 categories, public schools; 8 categories, Catholic schools) [and] degree of urbanization (10 categories) (Riccobono et al, 1981, Vol 1).

The dimensions of the sample strata and the probability selection criteria are as follows:

> In the smallest size strata (fewer than 300 seniors), schools were selected with probabilities proportional to the estimated number of senior students; in the remaining size strata, schools were selected with equal probabilities. All selections were without replacement. The potential for including disadvantaged students in the sample was increased by sampling schools in low-income areas and schools with high proportion of minority group enrollment at twice the rate used for the remaining schools. Within each stratum, four schools were selected and then two of the four were randomly designated as the primary selections. The other two schools were retained as backup or substitute selections for use only if one or both of the primary schools did not cooperate (Riccobono et al, 1981, Vol 1).

The second stage sampling frame consisted of a list of students selected from each of the first-stage schools. Eighteen students were randomly selected from each school using simple random sample selection procedure. If any school had less than 18 students, then all were selected. If possible, five additional students were selected randomly as replacement students for nonparticipating students. All selections were

based on equal probabilities and without replacement. Any student graduating at mid-year or attending adult education classes were excluded from the second stage sampling frame (Riccobono et al, 1981, Vol 1).

The National Longitudinal Study Instrumentation

Base-Year Instrumentation

The base-year student or target sample group were asked to complete two questionnaires: (1) the base-year Student Questionnaire, and (2) the Test Battery Questionnaire. Additional student data was gained from a School Record Information Form Questionnaire (IFQ). The IFQ was sent to each student's respective high school office (Riccobono et al, 1981, Vol 1).

The base-year Student Questionnaire contained 104 questions organized into 11 sections This instrument was administered to gather information on the student's high school experiences, attitudes and opinions, plans for the future, after high school plans, full-time/part-time work plans, apprenticeship or on-the-job training plans, military plans, homemaker plans, vocational or technical plans, and college or university plans. Students had the option of completing the questionnaire at school or seeking parental or guardian aid. The Student Questionnaire was a self-administered questionnaire (Riccobono et al, 1981, Vol 1).

The Test Battery Questionnaire measured the verbal and nonverbal student abilities. Each student was given

69 minutes to take 6 different tests (Vocabulary, Picture Number, Reading, Letter Groups, Mathematics, and Mosaic Comparisons). These tests specifically measured the student's vocabulary, associative memory, reading ability, inductive reasoning ability, mathematics ability, and mental perceptual speed and accuracy (Riccobono et al, 1981, Vol 1).

The School Record Information Form (SRIF) was completed by high school officials and/or counselors. This instrument asked for student information concerning his or her high school curriculum, grade point average, remedial-instruction record, standardized test scores, and handicap status.

First Follow-Up Instrumentation

The first follow-up instrument was a student self-administered questionnaire which contained 85 questions. The first follow-up instrument was divided into two forms, A and B. Form A was mailed to every sampled person who responded to the base-year Student Questionnaire. Form B was mailed to sample subjects who were resurveyed or who did not participate in the base-year survey because of student scheduling problems. The content of Form B was identical to Form A except that Form B contained 14 additional questions. These additional questions were added to Form B in order to collect missing base-year data from the resurveyed and augmentation sample group (Riccobono et al, 1981, Vol 1).

The majority of the first follow-up questions were "forced-choice." Non-forced-choice or open-ended questions requested information on "dates, income, number of hours or week worked, and the like" (NLS, 1981). The instrument or questionnaire was divided into 6 sections and requested information on future education and training, civilian work experiences since high school, military service, aspirations, career plans, etc. (Riccobono et al, 1981, Vol 1).

Second Follow-Up Instrumentation

The second follow-up questionnaire contained 153 self-administered questions. The questionnaire format was similar to that found in the first follow-up--containing mainly closed-ended questions with few open-ended questions. The second follow-up questionnaire was divided into seven sections and requested information on the same subject areas as those presented in the first follow-up.

Third Follow-Up Instrument

The third follow-up questionnaire contained 158 self-administered questions. This questionnaire was divided into seven sections. The subject data required was identical to that found in the second follow-up. The questionnaire format was also identical to that found in the base-year through second follow-up surveys -- mainly closed-ended with open-ended questions.

Fourth Follow-Up Instrument

1. Basic Questionnaire. The fourth follow-up questionnaire contained 202 self-administered questions. Most of the questions were identical to those found in the previous base year through third follow-up questionnaires. However, a few questions were "modified or added to obtain unique information" (Riccobono et al, 1981, Vol 1). The subject area data sought was identical to that requested in the previous follow-up questionnaire --information on socioeconomic income, education experiences and plans, family status, aspirations, military experiences, work experiences, etc. The questionnaire format was also identical to that found in previous questionnaires--mainly force choice or closed-ended questions.

2. Supplemental Questionnaire. A Supplemental Questionnaire containing 11 sections of mainly closed-ended questions was mailed to respondents who failed to complete at least one but no more than four of 11 critical data block sections. This questionnaire was specifically designed to capture missing first through third follow-up data (Riccobono et al, 1981, Vol 1).

The National Longitudinal Study, Sample Size and Data Collection Procedure

Base-Year Data Collection: The Initial Survey

There were 1,069 high schools which participated in the base-year survey. From these schools, 19,001

students composed the student sample. The base-year follow-up questionnaire was administered using the group administration technique (i.e., administering the survey instrument not by telephone or mail but to groups of students in the presence of a survey administrator). Participating high schools collected the majority of NLS student data from April through June 1972 (Riccobono et al, 1981, Vol 1).

First Follow-Up Data Collection

The first follow-up questionnaire was administered by mail from October 1973 to April 1974. The NLS core survey sample consisted of 23,451 student members from which 19,001 students (from 1,043 high schools) were selected from the base-year name and address file, and 4,450 students (from 257 re-surveyed high schools) who were unable to participate in the original base-year survey were added. From the NLS survey core student sample of 23,451 members, 797 members were excluded because they were characterized by one of the following criteria: unwilling to participate in the base-year survey, institutionalized, deceased, mentally retarded, untraceable address, or out of the country at the time of the first follow up (Riccobono et al, 1981, Vol 1).

With the exclusion of 797 members from the 23,451 core survey sample, the total target survey group consisted of 22,654 members. From the 22,654 target survey group, 21,350 members responded to the NLS survey

questionnaire. The response rate for the target survey group was 94.2 percent and 91.0 percent for the core survey sample (Riccobono et al, 1981, Vol 1).

Second Follow-up Data Collection

The second follow-up questionnaire was administered by mail from July 1974 through June 1975. From the National Longitudinal Study core survey sample of 23,451 members, only 22,364 members were eligible for inclusion into the target survey group. The 1,087 core survey ineligibles were excluded because they fell into one of the following categories: unwilling to participate in the base year or first follow-up surveys, institutionalized, deceased, mentally retarded, untraceable address, or out of the country during the time of the second follow-up survey (NLS, 1981, Vol. 1).

The target survey group consisted of 22,364 members, from which 20,872 survey questionnaires were obtained for a response rate of 93.3 percent. The response rate for the core survey sample group (23,451) was 89.0 percent (Riccobono et al, 1981, Vol 1).

Third Follow-Up Data Collection

The third follow-up questionnaire was administered by mail from August 1976 through June 1977. From the National Longitudinal Study core survey sample of 23,451 members, 21,807 members were eligible for inclusion into the target survey group. The 1,644 ineligible target survey members were excluded from the third

follow-up survey for the same reasons found in the first and second follow-up, i.e., participation refusal, untraceable address, etc. (Riccobono et al, 1981, Vol 1).

The 21,807-member target survey group had a questionnaire response rate of 92.1 percent (20,092 and the response rate for the core survey group was 85.7 percent (Riccobono et al, 1981, Vol 1).

Fourth Follow-up Data Collection

The fourth follow-up questionnaire was administered by mail from October 1979 through May 1980. From the National Longitudinal Study core survey sample of 23,451 members, 2,589 members were designated as ineligible. As a result, the survey target group consisted of 20,862 members. The fourth follow-up ineligible fell into this category for the same reasons noted for the first, second and third follow-up members. The fourth follow-up obtained 18,630 questionnaires from the 20,862-member target group for a response rate of 89.3 percent. The core survey response rate was 79.4 percent.

In an attempt to collect vital educational and work history data from respondents who failed to complete their respective questionnaires, a specially tailored data-capture survey was administered. To capture the missing data, a Supplemental Questionnaire was sent to 5,548 active target sample members.

This group was defined by all eligible sample members missing no more than one of the first

> through third follow-up questionnaires but missing two or more items in at least two but no more than four of eleven critical data blocks (Riccobono et al, 1981, Vol. 1, p. 26).

The response rate (4,543 returns) for this special target group was 81.9 percent (Riccobono et al, 1981, Vol 1).

Study Design

Study Sample Selected for Analysis

The sample for this study was taken from the National Longitudinal Study (NLS) of the High School Class of 1972 data base. This data base was distributed on magnetic 9 track computer from the National Center for Educational Statistics, Washington, D.C. The NLS data base was a public data base file which did not require permission before using.

The sample selected for analysis consisted of 845 male military enlistees. The selected 845 student sample was tracked from the 1972 base year survey through the 1979 fourth follow-up survey. Sample selection criteria consisted of the following: 1) Only subjects who enlisted into the United States military were selected; only active duty subjects were selected; 2) only enlistees who entered the military on or prior to the NLS first follow-up survey; and 3) only male enlistees were selected as subjects. Individuals who entered the military after the first follow-up survey were not included in the study sample. These subject exclusions were undertaken to assure sample

homogeneity. As a result, the study's generalization power would be increased.

The length of service an enlistee spent in the service was not computed. The independent variable "length of duty" was removed from the analysis once it was found that its combined and separate inclusion resulted in a reduction of 841 (99%) possible valid cases. Therefore, the study sample includes persons who remained in the military as of the NLS fourth follow up and persons who left the military prior to the NLS fourth follow up.

The study's selected sample consist of 9 American Indians, 169 blacks, 31 Mexican Americans, 2 Latin Americans, 4 Asian Americans, 604 whites, and 26 other races and/or ethnic groups. Additional description information on the sample included the following.

The largest single number of study sample subjects 21.9% (N = 420) had fathers whose occupation was a craftsman such as baker, automobile mechanic, machinist, painter, plumber, telephone installer or carpenter. Fifty four percent (N = 455) of the sample subjects had mothers whose occupation was homemaker or housewife. As children, 81.7% (N = 763) of the sample subjects received daily newspapers in their home. While growing up, 97% (N = 766) of the sample subjects had dictionaries in thier home. Also while growing up, 88.5% (N = 762) of the sample subjects received

magazines at home. A cumulative 72.2% (N = 789) of the sample respondents had fathers whose education did not go beyond high school, compared to a cumulative percentage of 80.7% (N = 800) for sample subject mothers whose education did not go beyond high school (see Appendix A).

A cumulative percentage of 36.9 (N = 531) represented the number of sample fathers who wanted their sons to achieve a four year college or university degree, while cumulatively, 37% (N = 570) of the sample subject mothers wanted four year college or university degrees for their sons. A cumulative percentage of 32.3% (N = 808 of the sample subjects formulated educational aspirations, during their first year in the military which did not include education which went beyond high school (see Appendix A).

The sample subjects (N = 780) had high school grade point averages which were: below D (.1%), most D (1.5%), half C-D (10.0%), mostly C (22.4%), half B-C (33.8%), mostly B (18.6%), half A-B (10.8%), and mostly A (2.7%). See Appendix A. In high school 46.7%, 26.7% and 26.6% (N = 843) of the sample subjects were enrolled in the following high school programs respectively; general, academic or college preparatory, and vocational or technical (see Appendix A).

Sample subjects (N = 582) received specialized schooling in the first year of military service at a

rate of 15.1% in business, 3.3% computer technology, 6.9% health, 43.3% mechanical and engineering technology, 10.5% services and 21.0% other fields. Eighty-eight and one half percent (N = 693) of the sample subjects plan to use the GI Bill to further their education. While 11.5% of the sample subjects do not plan to use the GI Biull to further their education. Thirty-six point seven percent (N = 226) of the sample subjects felt that receiving a college education while in the service was a very important factor in helping them decide to enter the military. While 58.8% (N = 228) of the sample subjects felt that vocational training was the most important factor in deciding whether to join the military. Sixty-five percent (N = 660) of the sample subjects plan to enter college after military service. While 39.0% (N = 642) of the study sample respondents plan to receive vocational or technical training after military service. Additional information on the study sample can be ascertained by examining the tables in Appendix A.

Method of Analysis

Multiple Regression Analysis

Multiple regression analysis was the statistical technique selected for analyzing the data within this study. The multiple regression technique was chosen because it mathematically measures the concurrent effects of two or more independent variables on a

dependent variable (Pedhazur, 1982).

The multiple regression formula used in this analysis was as follows:

$$y = a + b_1x_1 + b_2x_2 + \ldots b_kx_k + e$$

where:

y = dependent variable
a = intercept
$b_1, b_2, \ldots b_k$ = regression coefficients
$x_1, x_2 \ldots X_k$ = independent variables
e = error or residual

Five multiple regressions were employed in this study. The first four multiple regressions were used to address research questions 1 through 4 and to provide independent variables for the fifth regression analysis.

The fifth multiple regression analysis was employed to address research question number five. The independent variables used in the fifth multiple regression equation were selected from the first four multiple regression analyses. Significant independent variables were retained from the first four multiple regressions. Although not found in any of the first four equations, a race variable was added to the fifth equation based on its theoretical importance in explaining the dependent variable, educational attainment (Gottfredson, 1981, Robertshaw & Wolfle, 1983).

Dummy Variables/Coding

Categorical variables assume no condition of numeric gradation or unit of measurement. Categorical

or nominal variables denote a condition of "either/or" (a mutually exclusive condition)(Pedhazur, 1982). As a consequence of these characteristics, categorical or nominal-scale variables cannot be used in a regression analysis unless transformed into a dummy variable (Kerlinger, 1973; Pedhazur, 1982; and Wesolowsky, 1976).

As Nie and others (1975) lament:

> "A set of dummy variables is created by treating each category of a nominal variable as a separate variable and assigning arbitrary scores for all cases depending upon their presence or absence in each of the categories . . . Since the dummy variable have arbitrary metric values of 0 and 1, they may be treated as interval variables and inserted into a regression equation."

In dummy variable construction,

> "all but one of the possible groupings of the classification variable are used as dummy variables. Thus, in the four-way grouping on race/ethnicity, three different dummy variables would be formed; one group is 'excluded' and serves as a reference group against which comparisons can be made. It does not matter which group is chosen as the reference group; the implications of the results will remain the same." (Schroeder et al, 1988)

In this study, all categorical or nominal-scale variables were transformed into dummy variables before inserted into the multiple regression equation(s). See Appendix B for a complete listing of dummy variable vector codes.

The Statistical Package for the Social Sciences (SPSS) dummy variable coding procedure was used to create the dummy variables used in this study

(Nie, 1975).

Level of Significance

The concept of statistical significance in hypothesis testing is based on probability. The assumption tested is the null hypothesis. The probability of rejecting the null hypothesis when it is true (correct) is referred to as a type I error. This allowable probability for making a type I error is defined as the level of significance or significance level (Wesolowsky, 1976).

The predetermined significance level or probability of making a type I error in this study was .10 ($p \leq .10$).

F Test Procedure

This study used three types of hypothesis testing procedures, (1) the F test for the overall multiple regression equation or the "overall F test for goodness of fit of the regression equation" (Nie, 1976), (2) the F test for a specific Beta coefficient, and (3) the F test for testing an increment in the proportion of variance accounted for by a variable or a set of variables; that is, the F test used to test for a subset of Beta coefficients (Pedhazur, 1982) (Nie et al, 1975).

The F test for the overall multiple regression equation was used to determine whether the independent variable were collectively statistically related to the dependent variable. The calculations for this F were done using a mainframe computer and the Statistical

Package for the Social Sciences (SPSS). However, F distribution tables were manually consulted when determing the significants of the computer generated F ratio. The overall F test formular consisted of the following:

$$F = \frac{R^2 / K}{(1 - R^2)/(N-K-1)}$$

where: R^2 = the coefficient of determination for the overall regression equation.

K = the number of independent variables in the equation

N = the number of cases

In determinig the statistical significants of a specific Beta coefficient or the importance of a specific independent variable in the equation, for explaining the dependent variable, the following F statistic formula was used.

$$F = \frac{r^2_{y\ (i.1,2,\ \ldots\ K)/1}}{(1 - R^2_{y.12..i..K})/(N-K-1)}$$

where: r^2_y (i.1, 2, ...k) = the incremental sums of squares or squared multiple correlations due to x; (independent variable)

$(1 - R^2y.12\ ..i..k)$ = the residual (unexplained sum of squares after a given independent variable has been added to the equation containing all others.

1 = the degrees of freedom for the numerator

(N-K-1) = the degrees of freedom for the denominator (Nie et al, 1975).

The calculations were performed via the use of a mainframe computer and the SPSS software. However, a F distribution table was manually consulted when determing the significants of each F statistic.

The computations required to produce the F ratio for testing a subset of Beta coefficients were not computer generated. Computer computations were not done because the SPSS software did not provide the required statistics to manually compute this F ratio. Please refer to Appendix C for the actual manual computations for each subset of Beta coefficients tested.

The F ratio formula consisted of the following:

$$F = \frac{R^2_{y.12...K_1} - R^2_{y.12...K_2})/K_1 - K_2}{(1 - R^2_{y.12...K_2})/(N-K_1-1)}$$

where: $(R^2_{y.12...K_1} - R^2_{y.12...K_2})$ = squared multiple correlation coefficient for the regression of Y or K_1 variables minus the squared multiple correlation coefficient for the regression of Y on K_2 variables.

K_1 = the total number of independent variables

K_2 = the total number of independent variables

minus the independent variable(s) being tested for variance contribution.

$K_1 - K_2$ = the number of independent variables in the subset and the degrees of freedom for the numerator

$(1 - R^2_{y.12...K_1})$ = the residual (unexplained) sums of squares after a given independent variable has been added to the equation containing all others

$N - K_1 - 1$ = degrees of freedom for the denominator (Pedhazur, 1982) (Nie et al, 1975).

Missing Data Procedures

SPSS software provides the user with several methods for handling missing data or variable observations; inclusion of missing data, listwise deletion of missing data, pairwise deletion of missing data, and mean substitution for missing data.

This study used the listwise deletion method for addressing all missing data. With the listwise deletion procedure "all means, standard deviations, and correlations [were] based on the same universe of data" (Nie, 1975). Also with listwise deletion "a missing value for a particular variable causes that case to be eliminated from calculations involving" all other variables (Nie, 1975). Before making the selection to use the listwise deletion method the following methods were tested and evaluated.

With the pairwise deletion procedure "a missing value for a particular variable causes that case to be

eliminated from calculations involving that variable only" (Nie, 1975). The pairwise deletion procedure was not used in this study because as Nie et al (1975) laments: "little confidence can be placed in [the] multiple regression statistics" when it is employed.

Neither, the mean substitution or the inclusion of missing data procedure were used in this study. Both of these methods generated bias analytical results. That is, the mean substitution procedure substitute means (or imaginary data) for missing observations. The inclusion of missing data procedure treats of all missing data as zero values. Thereby, making the calculation of coefficients and other measure invalid (Nie et al, 1975).

Variable Definitions and Treatment

Independent Variables

Family Income (FAIN)

Family income was measured using the student's response to the 1972 base-year survey question BQ93. The respondents were asked: "What is the approximate income before taxes of your parents (or guardian)? Include taxable and non-taxable income from all sources." The response categories were 1 = Less than $3,000 a year (about $60 a week or less), 2 = between $3,000 and $5,999 a year (from $60 to $119 a week), 3 = between $6,000 and $7,499 a year (from $120 to $149 a week, 4 = between $7,500 and $8,999 a year (from $150

to $179 a week), 5 = between $9,000 and $10,499 a year (from $180 to $209 a week), 6 = between $10,500 and $11,999 a year (from $210 to $239 a week), 7 = between $12,000 and $13,499 a year (from $240 to $269 a week), 8 = between $13,500 and $14,999 a year (from $270 to $299 a week), 9 = between $15,000 and $18,000 a year (from $300 to $359 a week), and 10 = over $18,000 a year (about $360 a week or more).

Literary Objects in the Home (LOIH)

This variable was created as a proxy measure of the family's economic ability to provide literary materials through the procurement of daily newspapers, dictionaries, encyclopedias or other references, and magazines. It was assumed by this researcher that families at high economic levels would procure greater numbers of literary materials than those families at lower socioeconomic levels. LOIH was measured using the student's responses to the base-year survey questions BQ94B, BQ94C, BQ94D, and BQ94E.

Regarding daily newspaper, dictionary, encyclopedia or other reference books and magazines, survey respondents were asked: "Which of the following do you have in your home?" Response categories were: 1 = have, and 2 = do not have. Each literary object category was recoded as a dummy variable using the dummy variable coding technique. The four dummy variables created were PAPER (daily newspaper), DICTION

(dictionary), ENCY (encyclopedia or other reference books), and MAGA (magazines). The dummy vector codes were 1 = have, 0 = do not have.

Father's Education (FED)

Father's Education was quantified using first the follow up survey question FQ78A. The survey question asked student respondents was: "What is the highest educational level completed by your father? If you are not sure, please give your best guess." The response categories were: 1 = none or grade school only, 2 = did not finish high school, 3 = finished high school, 4 = less than two years of vocational, trade business, or career program in a school or college, 5 = two years or more or vocational, trade, business, or career program in a school or college, 6 = some college (including two-year degree) - academic programs, 7 = finished college (four or five year degree) - academic programs, 8 = master's degree or equivalent-academic programs, 9 = Ph. D., M.D. or equivalent - academic programs. Since this variable was a continuous variable, no transformations were required.

Mother's Education (MED)

Mother's Education was measured using the first follow up survey question FQ78B. The survey question asked was: "What is the highest educational level completed by your mother? If you are not sure, please give your best guess." The response categories were

the same as those list for the independent variable Father's Education. As with FED, no variable transformation was required for MED since it was a continuous variable.

Father's Occupation (FOCC)

Father's Occupation was discerned using the base-year survey question BQ25B. The survey question presented to student respondents was: "Under father, circle the one number that best describes the work done by your father (or male guardian)." The responses categories were: 1 = clerical, such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent; 2 = craftsmen such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter; 3 = farmer, farm manager; 4 = homemaker or housewife; 5 = laborer such as construction worker, car washer, sanitary worker, farm laborer; 6 = manager, administrator such as sales maanger, office manager, school administrator, buyer, restaurant manager, government official; 7 = military such as career officer, enlisted man or woman in the armed forces; 8 = operative such as meat cutter, assembler, machine operator, welder, taxicab, bus or truck driver; gas station attendant; 9 = professional such as accountant, artist, clergyman, dentist, physician, registered nurse, engineer, lawyer, librarian, teacher, writer, scientist, social worker, actor, actress; 10 = proprietor or owner

such as owner of a small business, contractor, restaurant owner; 11 = protective service such as detective, policeman or guard, sheriff, fireman; 12 = sales such as salesman, sales clerk, advertising or insurance agent, real estate broker; 13 = service such as barber, beautician, practical nurse, private household worker, janitor, waiter; and 14 = technical, such as draftsman, medical or dental technician, computer programmer.

Since FOCC was a categorical variable, each of its categories were transformed into dummy variables. The dummy variables constructed were: D1 (Clerical), D2 (Craftsman), D3 (Farmer, Farm manager), D4 (Homemaker or Housewife), D5 (Laborer), D6 (Manager, Administrator), D7 (Military), D8 (Operative), D9 (Professional), D10 (Proprietor), D11 (Protective Service), D12 (Sales), and D13 (Service). The "Technical" category was designated as the reference category. The dummy variable vectors for D1 to D13 are referenced in Appendix B.

Mother's Occupation (MOCC)

Mother's Occupation was ascertained using the base-year survey question BQ25C. BQ25C asked respondents: "Under mother, circle the one number that best describes the work done by your mother (or female guardian)." The response categories were the same as those described for Father's Occupation (FOCC). Like FOCC, MOCC was a

categorical variable, as such, it was coded as a dummy variable.

The dummy variables composed for MOCC were: D14 (Clerical), D15 (Craftsman), D16 (Farmer, Farm Manager), D17 (Homemaker or Housewife), D18 (Laborer), D19 (Manager, Administrator), D20 (Military), D21 (Operative), D22 (Professional), D23 (Proprietor or Owner), D24 (Protective Service), D25 (Sales), and D26 (Service). The "Technical" category was designated as the reference category. Refer to Appendix B for the vectors assigned to each MOCC dummy variable.

Father's Education Aspirations for Children (FEAFC)

This variable was measured using the base-year survey question BQ91A. The survey question asked was: "As far as you know, how much schooling does your father (or male guardian) want you to get?" There were seven response categories: 1 = wants me to quit high school without graduating; 2 = wants me to graduate from high school and stop there; 3 = wants me to graduate from high school and then go to a vocational, technical, trade, or business school; 4 = wants me to go to a two-year or junior college; 5 = wants me to go to a four-year college or university; 6 = wants me to go to a graduate or professional school after graduating from four-year college or university; and 7 = I don't know.

The "I don't know" (7) category was removed from the continuous variable scale. Data ascertained for

this category were treated and coded as missing data.

Mother's Educational Aspirations for Children (MEAFC)

The MEAFS variable was constructed using the base-year survey question BQ91B. Respondents were asked "As far you know, how much schooling does your mother (or female guardian) want you to get?" MEAFS response categories were the same as those given for the FEAFS variable. The MEAFS's category 7 was treated just as the FEAFS 7 response category.

High School Educational Aspirations (HSEA)

High School Education Aspirations were quantified using the base-year survey question BQ29A. Respondents were asked to "circle one number for the highest level of education you would like to attain?" The responses were: 1 = less than high school graduation; 2 = graduate from high school, but not go beyond that; 3 = graduate from high school and then go to vocational, technical, business, or trade school; 4 = go to a junior college; 5 = go to a four-year college or university; and 6 = go to a graduate or professional school after college.

Educational Aspirations established during the First Year in the Military (EAFYM)

This variable was measured using survey question FQ12. Survey respondents were asked in the first follow-up survey, "How far in school would you like to

get?" The responses were: 1 = high school only; 2 = less than two years of vocational, trade, or business school; 3 = two years or more of vocational, trade, or business school; 4 = some college (including two-year degree); 5 = finish college (four or five-year degree); 6 = master's degree or equivalent; and 7 = Ph.D., M.D. or equivalent.

High School Grade Point Average (HSGP)

High School Grade Point Average was quantified using the base-year survey question BQ05. Respondents reported their responses after being asked, "Which of the following best describes your grades so far in high school?" The possible survey category selection items were: 1 = mostly A (a numerical average of 90-100); 2 = about half A and half B (85-89); 3 = mostly B (80-84); 4 = about half B and half C (75-79); 5 = mostly C (70-74); 6 = about half C and half D (60-64); 7 = most D (60-64); and 8 = mostly below D (below 60). Notice, that the continuous measurement scale of these reported responses were scaled with the highest grade receiving the lowest numerical value. If this scale structure was allowed to stand, it would be inconsistent with the measurement scales of the other continuous variables used in this study. Therefore, to maintain measurement consistency between variables, the HSGP measures were reassigned measurement scale values by assigning high values to high grades and low values to low grades.

The result was as follows: 8 = most A, 7 = about half A and half B, 6 = most B, 5 = about half B and half C, 4 = most C, 3 = about half C and half D, 2 = mostly D, 1 = mostly below D.

Student Aptitude (APTI)

The parameters of this measure were defined by the survey authors of the National Longitudinal Study (NLS). This variable was operationalized as an aptitude index or an aptitude composite variable. The NLS method of creation was as follows:

> "A composite index for general aptitude based upon the ETS developed cognitive tests administered in the base-year. Each participant in the NLS who took the base-year tests, was given a code of 1, 2, or 3 depending upon whether his aptitude composite was in the lower, middle two, or upper quartile range of the observed scores. The base-year test covered four content areas -- vocabulary, reading, letter groups, and mathematics. It was decided that a simple sum over four standardized test scores (each with a mean of 50 and a standard deviation of 10; would suffice as a general index. The cutoff points for the quartiles were as follows:
>
> 3 = upper quartile if >225.7497
> 2 = middle two quartile if $\leq$ 225.7497 and $\geq$ 181.5461
> 1 = lower quartile if < 181.5461
>
> This composite score is file variable aptitude." (Riccobono et al, 1981, Vol 11, p. 60)

Student High School Program (HSPGM)

This variable was ascertained from a composite high school program variable created by the National Longitudinal Study survey authors. This variable was operationalized using the survey question, "Which of

the following best describes your present high school program?" The high school program composite variable categories were: 1 = General, 2 = Academic or college preparatory, and 3 = Vocational or technical (agricultural, business or office, distributive education, health, home economics, and trade or industrial occupations).

Since this NLS composite variable was a categorical variable, it was transformed into two dummy variables. The composite response categories: 1 = General, and 2 = Academic or college preparatory became dummy variables D1 and D2 respectively; while 3 = Vocational or technical was used as the reference category. The D1 and D2 dummy vectors may be referenced in Appendix B.

Specialized Schooling Received First Year of Military Service (RSS)

The RSS variable was ascertained from the first follow-up survey question FQ69A. The survey question asked respondents was: "In which of the following fields have you received specialized schooling?" The survey response categories were: 1 = Business (e.g., administration, management, clerical, communications, personnel), 2 = Computer Technology (computer programming, computer operations), 3 = Health Professions (medical technology, occupational therapy, x-ray technology, pharmacy), 4 = Mechanical and Engineering Technology (aircraft mechanics, automotive

mechanics, construction, printing, drafting, machinist, electronics), 5 = Services (food service, security work, aircraft control), and 6 = Other. Since RSS was measured as a six level categorical variable it was transformed into five dummy variables before being entered into the multiple regression equation. The RSS Other category served as the dummy reference category; while the dummy variables D1, D2, D3, D4, and D5 represented respectively the response categories Business, Computer Technology, Health Professions, Mechanical and Engineering technology, and Service. The dummy variable vectors are referenced in Appendix B.

Reason for Entering the Military -- To Receive In-Service Vocational Training (ISVT)

This independent variable was measured using the base-year survey question BQ46H. Respondents were asked: How important was each of the following in helping you decide to enter the military service after leaving high school? Wanted to get vocational or job training in the service. The survey response items for this continuous variable were: 1 = Not Important, 2 = Somewhat Important, and 3 = Very Important.

Reason for Entering the Military -- To Receive In-Service College Education (ISCE)

This variable was operationalized using the base-year survey question BQ46I. Survey respondents were

asked: How important was each of the following in helping you decide to enter the military service after leaving high school? Wanted to get a college education in the service. The response category for this continuous variable was: 1 = Not Important, 2 = Somewhat Important, and 3 = Very Important.

Plan to Use GI Bill to Further Education (GIBILL)

This variable was ascertained from the first follow-up survey question FQ72. Respondents were asked: "Do you plan to use the GI Bill to further your education? There were three categories: 1 = Yes, 2 = No, and 3 = Undecided. Since these categorical choices were nominal, the GI Bill variable was operationalized as a dummy variable. Categories 1 and 2 were vectorized using dummy variable coding (see Appendix B for category vector assignments). Category 3 was recoded and treated as missing data.

Educational Plans After Military Service -- College (EPASCOL)

This variable was ascertained using the first follow-up survey question FQ76B. Survey respondents were asked: "What do you plan to do when you get out of the Armed Force? College, either full-time or part-time." The response categories were: 1 = Applies to me, and 2 = Does not apply to me. As a categorical variable, EPASCOL was operationalized as a dummy variable. Using the dummy variable coding technique,

dummy vectors were assigned to each of the EPASCOL categories (see Appendix B for EPASCOL category vector assignments).

Educational Plans After Military Service -- Vocational (EPASVOC)

This variable was ascertained using the first follow-up survey question FQ76C. The respondents were asked: "What do you plan to do when you get out of the Armed Forces? Technical, vocational, or business or career training school, either full-time or part-time." The survey response categories were: 1 = Applies to me, and 2 = Does not apply to me. Since EPASVOC was a categorical variable it was operationalized as a dummy variable. Using the dummy variable coding technique, each of the EPASVOC categories were assigned dummy vectors (see Appendix B for EPASVOC category vector assignments).

RACE (CRACE)

The race variable was constructed by the National Longitudinal Survey (NSL) authors as a composite variable. Responses from the base-year, first, second, third, and forth follow-up surveys were used to compile this variable. The NLS variable number was VAR #1625. Respondents were asked: "How do you describe yourself?" The response catgories were: 1 = American Indian, 2 = Black or Afro-American or Negro, 3 = Mexican-American or Chicano, 4 = Puerto Rican, 5 = Other Latin-American

origin, 6 = Oriental or Asian-American, 7 = White or Caucasion, and 8 = Other.

In this study, these categorical responses were recoded, and operationalized in the following manner: 2 = Black, 3 = Mexican-American, Puerto Rican, and Latin-American (Hispanics), 7 = White, and 8 = Other. These recoded categories were transformed into the following dummy variables respectively: D16, D17, and D18; with other serving as the reference category. Dummy vector codes for these dummy variables are referenced in Appendix B.

Dependent Variable

Educational Attainment (EDAT)

The educational attainment of military enlistees was ascertained using two, fourth follow-up survey questions; FT66 and FT67. Respondents were asked: 1) "As of the first week of October 1979, how many years of education had you received at vocational, trade, or business school?"; and 2) "As of the first week of October 1979, what was your highest level of college education?" Response categories for the vocational education question were: 0 = This does not apply to me since I have not attended a vocational, trade, or business school; 1 = Some, but less than two years; and 2 = Two years or more. Response items for the college education question were : 0 = This does not apply to me since I have not attended college; 1 = Some, but less

than two years of college, 2 = Two or more years of college; 3 = Finished college (four of five-year degree), 4 = Master's degree or equivalent; and 5 = Ph.D. or advanced professional degree.

The Educational Attainment (EDAT) variable was operationalized by combining the vocational education question (FT55) with the college education question (FT67) categories. The consequence of combining these response categories resulted in a single educational attainment variable with a variable scale from 0 - 17. Each EDAT category was assigned one of the following values: 0 = No college and no vocational education; 1 = No college and some, but less than two years of vocational education; 2 = No college and two years or more of vocational education; 3 = Some, but less than two years of college education and no vocational education; 4 = Some, but less than two years of college education and some, but less than two years of vocational education; 5 = Some, but less than two years of college education and two years or more of vocational education; 6 = Two years or more of college education and no vocational education; 7 = Two years or more of college education and some but less than two years of vocational education; 8 = Two years or more of college education and two years or more of vocational education; 9 = Finished college (four or five-year degree) and no vocational education; 10 = Finished

college (four or five-year degree); 11 = Finished college (four or five-year degree) and two years or more of vocational education; 12 = M.A. or equivalent degree and novocational education; 13 = M.A. or equivalent degree and some, but less than two years of vocational education; 14 = M.A. or equivalent degree and two years or more of vocational education, 15 = Ph.D. or advanced professional degree and no vocational education; 16 = Ph.D. or advanced professional degree and some, but less than two years of vocational education; 17 = Ph.D. or advanced professional degree and two years or more of vocational education. (For a graphic example of EDAT code development see Appendix D.)

CHAPTER IV

FINDINGS

Chapter 4 reports the statistical findings for each of the five research questions cited in Chapter 1. In this regard, findings from each of the five overall multiple regression equations were reported. Also reported were findings detailing the individual importance of each independent variable as an adequate predictor of the dependent variable. Statistics reported in Chapter 4 included the multiple R, R-squared, Beta coefficient, F ratio, and the level of significance. Statistics and/or computations not reported in Chapter 4 are referenced in Appendix E-1, E-2, E-3, and E-4.

The sample for this study was taken from the National Longitudinal Study (NLS) of the High School Class of 1972 data base. The sample selected for analysis consisted of 845 male military enlistees. The selected 845 sample was tracked from the NLS 1972 base year survey through the 1979 fourth follow-up survey. The racial/ethnic mix of the study sample was 20.3% black, 4.0% hispanic, 72.6% white, and 3.1% other (N = 832). (See Appendix A.)

The dependent variables for this study is characterized by the following. Cumulatively, 67% of the subjects had acquired no more than "less than 2 years of college and no vocational" education. Of this

cumulative percentage 44% of the sample had "no college and no vocational" education. None of the sample subjects had earned M.A. or other advanced degree by the NLS fourth follow up. Table 1 illustrates the educational attainment breakdown of the military enlistee study sample.

The independent variable length active duty was removed from the analysis once it was detected that its combined and separate inclusion resulted in a reduction of 841 (99%) possible valid cases. Therefore, the study sample includes persons who remained in the military as of the NLS fourth follow up and persons who left the military prior to the NLS fourth follow up. In any event, the length of service an enlistee spent in the service was not computed.

Research Questions and Findings

Research Question 1

When socioeconomic status/family background factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

The relationship between the socioeconomic status/family background and the post-secondary educational attainment of male military enlistees was investigated using multiple regression analysis. Six independent variables were used in the analysis: Family Income (FAIN), Literary Objects in the Home

TABLE 1

The Dependent Variable Educational Attainment

Educational Attainment	F	%	Cum %	N
				845
No college, no voc.	372	44.0	44.0	
No college, < 2 yrs voc.	86	10.2	54.2	
No college, ≥ 2 yrs voc.	25	3.0	57.2	
< 2 yrs college, no voc.	83	9.8	67.0	
< 2 yrs college, < 2 yrs voc.	109	12.9	79.9	
< 2 yrs college, ≥ 2 yrs voc.	25	3.0	82.8	
≥ 2 yrs college, no voc.	57	6.7	89.6	
≥ 2 yrs college, < 2 yrs voc.	18	2.1	91.7	
≥ 2 yrs college, ≥ 2 yrs voc.	46	5.4	97.2	
Finish college, no voc.	15	1.8	98.9	
Finish college, < 2 yrs voc.	4	.5	99.4	
Finish college, ≥ 2 yrs voc.	5	.6	100.0	
M.A. college, no voc.	-	-	-	
M.A. college, < 2 yrs voc.	-	-	-	
M.A. college, ≥ 2 yrs voc.	-	-	-	
Ph.D. or eq. college, no voc.	-	-	-	
Ph.D. or eq. college, <2 yrs voc.	-	-	-	
Ph.D. or eq. college, ≥2 yrs voc.	-	-	-	

(LOIH), Father's Education (FED), Mother's Education (MED), Father's Occupation (FOCC), and Mother's Occupation (MOCC). Of the six independent variables used in this analysis, three were categorical variables: Literary Objects in the Home (LOIH), Father's Occupation (FOCC), and Mother's Occupation (MOCC). Since categorical variables have no natural numerical scale (Weslowsky, 1976) LOIH, FOCC, and MOCC were transformed into dummy variables (see Chapter 3 for further details). The dependent variable in this analysis was Education attainment (EDAT). The number of valid cases were 631 (N = 631). The tabular results from this multiple regression analysis are summarized in Table 2.

The multiple regression analysis between FAIN, LOIH, FED, MED, FOCC, MOCC, and EDAT yielded the following results. The multiple R for the overall multiple regression equation was .26260. The R square was .06896 or 6.896 percent of the variance was collectively explained by the independent variables; FAIN, LOIN, FED, MED, FOCC, and MOCC. The number of degrees of freedom of the numerator and denominator of F was 33 and 597 respectively. The F ratio was 1.34. The F ratio was significant at $p \leq .1$.

These overall equation results indicate that as a group the independent variables were adequate predictors of post-secondary educational attainment of male

TABLE 2

Socioeconomic Status/Family Background

Factors as Predictors of Post-Secondary Educational

Attainment of Male Military Enlistees

Independent Variables	Beta	df	F ratio
Family income (FAIN)	-.01628	1/597	.121
Literary objects in the home (LOIH)	--	4/597	.348
Newspaper (PAPER)	-.00671	1/597	.023
Dictionary (DICTION)	.00111	1/597	.001
Encyclopedia (ENCY)	.03695	1/597	.729
Magazine (MAGA)	-.05097	1/597	1.441
Father's education (FED)	.05083	1/597	.877
Mother's education (MED)	.10486	1/597	4.111[b]
Father's occupation (FOCC)	--	13/597	1.725
Clerical (D1)	-.04416	1/597	1.137
Craftsmen (D2)	.02228	1/597	.167
Homemaker (D3)	.02895	1/597	.491
Farmer (D4)	.01751	1/597	.190
Laborer (D5)	.06970	1/597	1.855
Manager (D6)	.04509	1/597	.865
Military (D7)	.05401	1/597	1.411
Operative (D8)	.08666	1/597	3.131[a]
Professional (D9)	.02217	1/597	.203
Proprietor (D10)	-.00216	1/597	.002
Protective (D11)	-.01998	1/597	.197
Sales (D12)	.12653	1/597	7.968[d]
Service (D13)	-.04355	1/597	.963

Independent Variables	Beta	df	F ratio
Mothers's occupation (MOCC)	--	13/597	.305
Clerical (D14)	.03634	1/597	.521
Craftsmen (D15)	.03691	1/597	.819
Homemaker (D16)	.03465	1/597	.693
Farmer (D17)	.05057	1/597	.633
Laborer (D18)	.00391	1/597	.008
Manager (D19)	-.00643	1/597	.025
Military (D20)	-.03969	1/597	.953
Operative (D21)	-.04716	1/597	1.045
Professional (D22)	-.01215	1/597	.062
Proprietor (D23)	.01763	1/597	.167
Protective (D24)	.06131	1/597	2.150
Sales (D25)	-.00333	1/597	.006
Service (D26)	.01517	1/597	.087
Overall equation: R^2 = .06896	--	33/597	1.34[a]
Number of cases: 631			

a = significant at $p \leq .1$

b = significant at $p \leq .05$

c = significant at $p \leq .025$

d = significant at $p \leq .01$

e = significant at $p \leq .005$

f = significant at $p \leq .001$

military enlistees. In addition, there were individual independent variables which were adequate predictors of post-secondary educational attainment of male military enlistees. From the six independent variables entered into the multiple regression equation only two were individually found to be significantly related to Educational Attainment. Mother's Education (MED) and Father's Occupation (FOCC) were the two significantly related variables.

The Beta coefficient for the independent variable Mother's Education (MED) was .10486. The F ratio for the MED Beta coefficient was 4.111. The Mother's Education Beta coefficient was significant at $p \leq .05$. The slope of the MED Beta coefficient was positive. These findings suggest that the educational attainment level achieved by the mothers of military enlistees was significantly related to the level of post-secondary education attained by her son or male guardian enlistee. These findings also suggest that the higher the educational attainment level of the mother, the higher the expected educational attainment level of her son or male guardian enlistee. In contrast, the Father's Education (FED) variable was not significantly related to the independent variable education attainment. The Father's Education Beta coefficient by comparison was small (.05083) and non-significant. The F ratio for the FED Beta coefficient was .877. The comparative

finding between MED and FED suggest that the Father's Education level did not play an important role in determining the level of post-secondary education of male military enlistees.

In order to analyze the statistical significant between the independent variable Father's Occupation (FOCC) and the dependent variable EDAT, the F test for testing an increment in the proportion of variance accounted for by a variable or a set of variables was used (Pedhazur, 1982). (See Chapter 3.) This F test was used because it collectively took into account all of the increments in proportion of variance accounted for or contributed by each of the Father's Occupation (FOCC) dummy variables entered into the multiple regression equation.

Since the independent variable Father's Occupation (FOCC) was a 14-level categorical variable, it was entered into the multiple regression equation as 13 dummy variables; D1 through D13. The technical occupation category was designated as the reference category, therefore, it was not entered into the equation (see Chapter 3 for the computer FOCC dummy variable listing and category identification). When the variance contributions of D1 through D13 were analyzed collectively, Father's Occupation was found to be significantly related to the dependent variable educational attainment. The F ratio via the F test for

testing the increment in the proportion of the variance, for FOCC's D1 through D13 was 1.725. This F ratio was significant at $p \leq .10$. These findings suggest that the Father's Occupation was a significant predictor of educational attainment for male military enlistees.

When analyzing the Beta coefficients of the individual Father's Occupation dummy variables, the following was found. Of the Father's Occupation dummy variable D8 (operative occupations) and D12 (sales occupations) were the only significant predictors of educational attainment when compared to the reference dummy variable. The dummy variable Beta coefficient for D8 was .08666. The F ratio for the D8 Beta coefficient was 3.131. The D8 Beta coefficient was significant at $p \leq .1$. The Beta coefficient for D12 was .12653. The F ratio for the D12 Beta coefficient was 7.698. The D12 Beta coefficient was significant at $p \leq .01$. These findings suggest that Fathers whose occupations were operative and sales tend to have sons or male guardian enlistees who achieve higher levels of educational attainment that sons or male guardians of fathers in other occupations.

In contrast the independent variable Mother's Occupation (MOCC) was not significantly related to educational attainment. When the incremental proportion of variance accounted for by the set of MOCC dummy variables (D14 through D26) was analyzed, their

variance contribution was not found to be significant. The MOCC incremental proportion of variance F ratio was .305. This finding suggest that mother's occupation was not an important predictor of post-secondary education attainment among male military enlistees (see Chapter 3 for MOCC dummy variable listing and category identification).

The Beta coefficient for the independent variable Family Income (FAIN) was -.01628. The F ratio for the FAIN variable was .121. The F ratio was not significant at $p \leq .10$. These findings indicate that Family Income was not an adequate predictor of post-secondary education attainment for male military enlistees. Even though there was no relationship between FAIN and EDAT, the slope of the FAIN Beta coefficient was an interesting finding. The FAIN Beta coefficient slope may suggest that male enlistees from poor income earning families tend to achieve higher levels of post-secondary education than enlistees from families with higher income earning levels. The Family Income (FAIN) negative Beta slope may indicate that enlistees from families of high income levels tend to achieve lower levels of post-secondary education than enlistees from low income earning families. However, since the FAIN Beta coefficient was not significant, none of these suggested FAIN possibilities may be reliable or valid.

The independent variable Literary Objects in the

Home (LOIH) was a categorical variable defined by four dummy variables: PAPER, DICTION, ENCY, and MAGA (see Chapter 3 for the LOIH category meaning and identification). Each of these dummy variables contained two categories. Using the F ratio for testing an increment in the proportion of variance accounted for by a set of dummy variables, the relationship between Literary Objects in the Home and Educational Attainment was analyzed. The LOIH F ratio was .348. This F ratio was not significant at $p \leq .10$. These findings indicate that LOIH was not an adequate predictor of post-secondary education attainment of male military enlistees.

Research Question 2

When educational aspiration factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

The relationship between educational aspirations and post-secondary educational attainment was examined using multiple regression analysis. Four independent variables were entered into the multiple regression equation. They were: High School Educational Aspirations (HSEA), Father's Educational Aspirations for Children (FEAFC), Mother's Educational Aspirations for Children (MEAFC), and Educational Aspirations established during the First Year in the Military (EAFYM). All of the independent variables were

continuous variables. The dependent variable in this regression equation was Educational Attainment (EDAT). The number of valid cases were 192 (N = 192). The multiple regression analysis tabular results are summarized in Table 3.

The results from the multiple regression analysis were as follows. The multiple R for the overall regression equation was .44737. The R square was .20014. The degrees of freedom of F were 4 over 225. The F ratio was 11.698. The F ratio was significant at $p \leq .001$.

The overall equation results indicate that, as a group, the independent variables were collectively adequate predictors of post-secondary educational attainment of male military enlistees. In other words, these findings indicated that educational aspiration factors, when taken alone, were highly related to the post-secondary educational attainment of male military enlistees.

A closer examination of the individual influence of each independent variable as a predictor of education attainment yielded the following results. From studying the Beta coefficients, it was determined that Mother's Educational Aspirations for Children (MEAFC) was the best aspiration predictor of education attainment of male military enlistees. As indicated by the size of each Beta, MEAFS was the best predictor of post-

TABLE 3

Educational Aspiration Factors As Predictors of Post-Secondary Educational Attainment of Male Military Enlistees

Independent Variables	Beta	df	F ratio
High school educational aspirations (HSEA)	.09289	1/187	1.130
Father's educational aspirations for children (FEAFC)	.10707	1/187	.812
Mother's educational aspirations for children (MEAFC)	.28538	1/187	5.676[c]
Educational aspirations established during the first year in the military (EAFYM)	.03963	1/187	.365
Overall equation: R^2 = .20014	--	4/187	11.698[f]
Number of cases: 192			

a = significant at $p \leq .1$

b = significant at $p \leq .05$

c = significant at $p \leq .025$

d = significant at $p \leq .01$

e = significant at $p \leq .005$

f = significant at $p \leq .001$

secondary education attainment of male military enlistees.

The Beta coefficient for Mother's Educational Aspiration for Children (MEAFC) was .28583. This Beta coefficient was significant at $p \leq .025$. The slope of the Beta coefficient was positive. These findings suggest that the mother's education aspirations for her child was significantly related to the level of post-secondary education attained by her male military enlistee. The slope of the Beta coefficient indicates that the higher the mother's educational aspiration level wished for her male child, the higher the level of educational attainment achieved by her male military enlistee.

The Beta coefficient for Father's Educational Aspirations for Children (FEAFC) was .10707. This Beta coefficient was not significant at $p \leq .10$. These findings indicate that FEAFC post-secondary educational attainment were not significantly related to one another. Therefore, these findings suggest that mother's education aspirations have a far greater impact on the post-secondary educational attainment of male military enlistees than that of fathers.

The Beta coefficient for the independent variable High School Education Aspirations (HSEA) was .09289. The HSEA Beta coefficient was not significant at $p \leq .10$. The slope of the HSEA Beta coefficient was

positive. These findings suggest that the educational aspirations established in high school were not an important determinant of post-secondary educational attainment of male military enlistees.

The independent variable, educational aspirations established during the first year in the military (EAFYM) was not an important predictor of post-secondary educational attainment of male military enlistees. The Beta coefficient was .03963. The EAFYM Beta coefficient was not significant $p \leq .10$. The EAFYM Beta slope was negative. These findings suggest that educational aspirations made in the first year of military service have no significant impact on post-secondary educational attainment of male military enlistees.

Research Question 3

When educational/academic performance factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlisters?

The relationship between education/academic performance factors and post-secondary educational attainment of military enlistees was examined using multiple regression analysis. High School grade Point Average (HSGP), Student Aptitude (APTI), and Student High School Program (HSPGM) were the independent variables regressed on the dependent variable Education Attainment (EDAT). Since HSPGM was a categorical variable, it was transformed into a series of dummy

variables before being entered into the multiple regression equation. The number of valid cases were 567 (N = 567). The tabular multiple regression equation results are summarized in Table 4.

The multiple regression analysis produced the following results. The multiple R for the overall multiple regression equation was .29461. The proportion of variance explained by the independent variables was 8.680 percent; thus, the R square was .08680. The degrees of freedom of F were 4 and 562 respectively. The F ratio was 13.354. The F ratio was significant at $p \leq .001$.

The overall multiple regression results indicated that the independent variables or education/academic performance factors, when taken alone, were highly related to the post-secondary education attainment of male military enlistees.

Further examination of the individual contributions of the independent variables as predictors of education attainment resulted in the following findings. All of the education/academic factors or independent variables entered into the multiple regression equation were significantly related to the dependent variable education attainment.

The Beta coefficient for the independent variable High School Grade Point Average (HSGP) was .16636. The F ratio for this Beta was 14.862. The HSGP Beta

TABLE 4

Educational/Academic Performance Factors As Predictors of Post-Secondary Educational Attainment of Male Military Enlistees

Independent Variables	Beta	df	F ratio
High school grade point average (HSFP)	.16636	1/562	14.862[f]
Student aptitude (APTI)	.10514	2/562	5.839[c]
Student high school program (HSPGM)	--	1/562	5.859[e]
General (D1)	.08536	1/562	3.078[a]
Academic (D2)	.17195	1/562	11.696[f]
Overall equation: R^2 = .08680	--	4/562	13.35[f]
Number of cases: 567			

a = significant at $p \leq .1$

b = significant at $p \leq .05$

c = significant at $p \leq .025$

d = significant at $p \leq .01$

e = significant at $p \leq .005$

f = significant at $p \leq .001$

coefficient was significant at $p \leq .001$. The slope of the HSGP Beta was positive. These findings indicate that high school grade point average was significantly related to the post-secondary educational attainment of military enlistees. These findings also suggest that an increase in high school grade point averages corresponds to an increase in the level of post-secondary educational attainment of military enlistees.

The reported Beta coefficient for student Aptitude (APTI) was .10514. The F ratio for APTI was 5.839. The APTI Beta coefficient was significant at $p \leq .05$. The slope of the APTI Beta coefficient was positive. These findings suggest that student aptitude was significantly related to the post-secondary educational attainment of military enlistees. The positive APTI Beta slope indicates that the high values of student aptitude were directly or positively related to the high values of post-secondary educational attainment of military enlistees. In such a case, the regression line slopes upward (from the lower left corner to the upper right corner). In order words, the higher the level of student aptitude the higher the expected post-secondary educational attainment of military enlistees.

As stated early in this chapter the independent variable student High School program (HSPGM) was entered into the multiple regression equation as a categorical variable. Because the variable Student High School

Program was operationalized with three categories (general, academic, and vocational) it was entered into the regression equation as two dummy variables D1 (general) and D2 (academic); with the vocational category serving as the reference category. The F ratio test for testing an increment in the proportion of variance accounted for by a variable or set of variables was used to determine the significance of the proportion of variance contributed by the HSPGM dummy variables (see Pedhazur, 1982).

When the variance contributions of D1 (general) and D2 (academic) were analyzed collectively, HSPGM was found to be significantly related to the independent variable, educational attainment. The F ratio via proportions of variance for D1 and D2 or HSPGM was 5.859. The HSPGM F ratio was significant at $p \leq .005$.

Examination of the individual Beta coefficients for D1 and D2 revealed that D2 was the best categorical predictor of Educational Attainment (EDAT) for the independent variable HSPGM. The Beta coefficient for D1 was .08536. The D1 F ratio was 3.078; significant at $p \leq .1$. The Beta coefficient for D2 was .17195. The D2 F ratio was 11.696; significant at $p \leq .001$. These findings suggest that male enlistees whose high school program was academic were more likely to achieve higher levels of educational attainment than enlistees whose high school program was general or vocational.

Research Question 4

When military factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

Multiple regression analysis was the research technique used for investigating the relationship between military factors and the post-secondary educational attainment of military enlistees. All of the independent variables used in this investigation were categorical variables. As categorical variables, each was transformed into dummy variables using the dummy variable coding technique.

Initially, eight independent variables were entered into the multiple regression equation. They were: reason for entering the military -- to receive In-service Vocational Training (ISVT); reason for entering the military -- to receive In-service College Education (ISCE); Specialized Schooling Received first year of military service (RSS); plan to use GI Bill to further education (GI BILL); Educational Plans After Military Service -- College (EPASCOL); Educational Plans After Service -- Vocational (EPASVOC); Length of Active Duty -- number of years and months (LAD) and number of College Courses Taken while on active duty (COLTAK).

However, the independent variables Length Active Duty (LAD) and College Courses Taken (COLTAK) were later removed from the analysis once it was detected that

their combined and separate inclusion resulted in a reduction of 841 (99%) possible valid cases. With so few valid cases, the regression equation was rendered unsolvable and the results produced were invalid.

Once LAD and COLTAK were removed, the other six independent variables were regressed on the dependent variable, Educational Attainment (EDAT) for a second time. The number of valid cases were 147 (N = 147). The tabular results of this multiple regression analysis are summarized in Table 5.

The multiple regression analysis findings, without LAD and COLTAK were as follows. The multiple R for the overall multiple regression was .39589. The R square was .15673. The degrees of freedom of the numerator of F was 10 and 136 degrees of freedom for the denominator. The F ratio was 2.528. The F ratio was significant at $P \leq .005$.

The overall equation results indicated that the independent variables, as a group, were significantly related to the dependent variable. Therefore, military factors were related to the post-secondary education attainment of military enlistees.

Further examination of the individual contributions of the independent variables as predictors of education attainment yielded the following results. Of the six independent variables (ISVT, ISCE, RSS, GI BILL, EPASCOL, and EPASVOL) entered into the multiple

TABLE 5

Military Factors As Predictors of

Post-Secondary Educational Attainment

of Male Military Enlistees

Independent Variables	Beta	df	F ratio
Reason for entering the military -- to receive in-service vocational training (ISVT)	-.00930	1/136	.012
Reason for entering the military -- to received in-service college education (ISCE)	.19470	1/136	5.129[c]
Specialized schooling received first year of military service (RSS)	--	5/136	1.070
Business (D1)	.04722	1/136	.312
Computer Technology (D2)	-.12092	1/136	2.067
Health Professions (D3)	.11416	1/136	1.741
Mechanical/Engineering Tech (D4)	-.02406	1/136	.070
Services (D5)	.03285	1/136	.156
Plan to use GI bill to further education (GI BILL)	.11935	1/136	2.125
Educational plans after military service -- college (EPASCOL)	.06165	1/136	.542
Educational plans after military service -- vocational (EPASVOC)	-.20095	1/136	6.178[c]
Overall equation: R^2 = .15673	--	10/136	2.528[e]
Number of cases: 147			

a = significant at $p \leq .1$

b = significant at $p \leq .05$

c = significant at $p \leq .025$

d = significant at $p \leq .01$

e = significant at $p \leq .005$

f = significant at $p \leq .001$

regression equation only ISCE and EPASVOC were individually significantly related to the dependent variable Education Attainment.

The Beta coefficient for the independent variable reason for the entering the military -- to received In-service College Education (ISCE) was .19470. The F ratio for the ISCE Beta coefficient was 5.129. The ISCE Beta coefficient was significant at $p \leq .025$. The slope of the ISCE Beta was positive. These findings suggest that the reason for entering the military -- to receive in-service college education was related to Educational Attainment (EDAT). In other words, the expectation of acquiring college education while in the military was a strong predictor of post-secondary education of military enlistees. In fact, the ISCE Beta slope suggest that the higher the in-service college expectation, the higher the expected level of post-secondary educational attainment of military enlistees.

The Beta coefficient for Educational Plans After Military Service -- Vocational (EPASVOC) was -.20095. The reported F ratio for EPASVOC was 6.178. The EPASVOC Beta coefficient was significant ats $p \leq .025$. The slope of the EPASVOC Beta coefficient was negative. These findings suggest that vocational educational plans after military or EPASVOC were related to the post-secondary educational attainment of military enlistees.

However, the significants of the EPASVOC Beta and its negative slope suggest that the amount of vocational education planned after military service was inversely related to the level of post-secondary educational attainment of military enlistees. That is, the higher the expectation or plans for vocation training after military service, the lower the expected level of post-secondary educational attainment of military enlistees.

In order to analyze the statistical significance between Specialized Schooling received first year of military service (RSS) and Educational Attainment (EDAT) the F test for testing an increment in the proportion of variance accounted for by a variable or a set of variables was used (Pedhazur, 1982). Because (RSS) was operationalized as a six-level categorical variable (Business, computer technology, health professions, mechanical and engineering technology, services and other) it was entered into the multiple regression equation as five dummy variables D1 to D5. The other category served as the reference category. When the variance contributions of D1 to D5 were analyzed collectively, the variable Specialized Schooling Received first year of military service (RSS) was found not be significantly related to the dependent variable educational attainment. The F ratio via proportions of variance for D1 to D5 or RSS was 1.070. The RSS F ratio was not significant at $p \leq .1$.

Research Question 5

When socioeconomic status/family background factors, educational aspiration factors, educational/ academic performance factors, and military factors were considered in unison, how did they relate to the post-secondary educational attainment of male military enlistees?

The relationship between socioeconomic status/ family background, educational aspirations, educational/ academic performance, military facotrs and the post-secondary educational attainment of male military enlistees was investigated using multiple regression analysis (see Table 6). The number of valid cases were 296 (N = 296). Eight independent variables were used in the regression equation. Of these independent variables, seven were selected from this study's first four research questions and one variable race (CRACE) was added as an ecological variable. The independent variables: High School Grade Point Average (HSGP), Mother's Educational Aspirations for Children (MEAFC), Educational Plans After Military Service -- Vocational (EPASVOC), Mother's Education (MED), Student Aptitude (APTI), Father's Occupation (FOCC), and Student High School Program (HSPGM) were added to this composite factor equation because each variable was found to be significantly related to dependent variable, educational attainment. All of the independent variables considered

TABLE 6

Socioeconomic Status/Family Background, Educational Aspiration, Educational/Academic Performance, and Military Factors As Predictors of Post-Secondary Educational Attainment of Male Military Enlistees

Independent Variables	Beta	df	F ratio
High School Grade Point Avg (HSGP)	.07922	1/272	1.632
Mother's Educational Aspirations for Children (MEAFC)	.22996	1/272	13.534[f]
Educational Plans After Military Service -- Vocational (SPASVOC)	-.07327	1/272	1.506
Mother's Education (MED)	.11565	1/272	3.682[a]
Student's Aptitude (APTI)	-.03713	1/272	.315
Father's Occupation (FOCC)	--	13/272	1.203
Clerical (D1)	-.04935	1/272	.747
Craftsmen (D2)	.03357	1/272	.243
Homemaker (D3)	.01321	1/272	.053
Farmer (D4)	.04629	1/272	.691
Laborer (D5)	.17241	1/272	6.875[d]
Manager (D6)	-.01907	1/272	.092
Military (D7)	.03707	1/272	.387
Operative (D8)	.08830	1/272	1.860
Professional (D9)	-.01543	1/272	.062
Proprietor (D10)	.02634	1/272	.207
Protective (D11)	-.01839	1/272	.104
Sales (D12)	.12100	1/272	4.195[b]
Service (D13)	-.00691	1/272	.014

Independent Variables	Beta	df	F ratio
Student High School Program (HSPGM)	--	2/272	1.760
General (D14)	.00571	1/272	.007
Academic (D15)	.12021	1/272	2.521
Race (CRACE)	--	3/272	.035
Black (D16)	.03529	1/272	.095
Hispanics (D17)	-.01704	1/272	.043
White (D18)	-.02545	1/272	.041
R^2 = .18318	--	23/272	2.652[f]
Number of cases: 296			

a = significant at $p \leq .1$

b = significant at $p \leq .05$

c = significant at $p \leq .025$

d = significant at $p \leq .01$

e = significant at $p \leq .005$

f = significant at $p \leq .001$

in research question five, except CRACE, met a minimum probability of committing a type one error of $\leq .10$.

Even though the independent variable Reason for entering the military -- to receive In-service College Education (ISCE) was significantly related to the EDAT variable in equation number 4 (Research question 4), it was omitted from this composite factor equation because its entry created a missing data problem. The equation entry of the ISCE variable produced too few valid cases for valid calculations of the fifth multiple regression equation.

The multiple regression analysis between HSGP, MEAFC, EPASVOC, APTI, FOCC, HSPGM APTI, CRACE, and EDAT produced the following results.

The overall equation results indicate that the independent variables, as a group were significantly related to educational attainment. The multiple R for the overall multiple regression equation was .42800. The R square was .18318. The degrees of freedom were 23/272. The F ratio was 2.652. The F ratio was significant at $p \leq .001$.

Further examination of the individual contributions of the independent variables as predictors of education attainment resulted in the following findings.

In this fifth and final regression equation, only Mother's Educational Aspirations for Children (MEAFC) and Mother's Education (MED) were significantly related

to educational attainment.

The Beta coefficient for the independent variable Mother's Education (MED) was .11565. The F ratio for MED was 3.682. The F ratio for Mother's Education was significant at $p \leq .10$. The slope of the MED Beta coefficient was positive.

The Beta coefficient for the independent variable Mother's Educational Aspiration for Children (MEAFC) was .22996. The F ratio for MEAFC was 13.534; significant at $p \leq .001$. The MEAFC Beta slope was positive.

These findings suggest that Mother's Education and Mother's Educational Aspirations for Children were the best predictors of post-secondary educational attainment of male military enlistees. The comparative Beta finding between MED and MEAFC suggest that Mother's Educational Aspirations for Children was the most important variable in determining the level of post-secondary educational attainment of male military enlistees.

While the independent variable Father's Occupation (FOCC) was not overall an adequate predictor of educational attainment; two of its categories were significantly related to educational attainment. Examination of the individual contributions of D5 (laborer) and D12 (sales) indicate that both dummy variables were adequate predictors of educational attainment. The Beta coefficient for D5 was .17241.

The F ratio was 6.875; significant at $p \leq .01$. In comparison, the Beta coefficient for D12 was .12100. The F ratio was 4.195; significant at $p \leq .05$. Both D5 and D12 Beta slopes were positive.

These findings suggest that male military enlistees whose father's occupations were "laborer" or "sales" were most likely to achieve higher levels of educational attainment than those of enlistees whose fathers were in other occupations.

CHAPTER 5

SUMMARY DISCUSSION AND CONCLUSIONS

Chapter 5 presents a summary of findings, future research implications and acknowledgement of study limitations on finding interpretations, discussion and conclusion.

Summary of Study

The purpose of this study was to identify factors which contribute to the post secondary educational attainment level of male military enlistees. In this regard five research problems and as many research questions were developed for research investigation. The research questions explored were:

1. When socioeconomic status/family background factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

2. When educational aspiration factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

3. When educational/academic performance factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

4. When military factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

5. When socioeconomic status/family background factors, educational aspiration factors, educational/academic performance factors, and military factors were considered in unison, how did they relate to the post-secondary educational attainment of male military enlistees?

The data used in this study was from the National Longitudinal Study of the High School Class of 1972 (NLS). Additional information supporting this study was gathered or obtained from literature.

The sample for this study was taken from the National Longitudinal Study (NLS) of the High School Class of 1972 data base. The sample selected for analysis consisted of 845 male military enlistees. The selected 845 sample was tracked from the NLS 1972 base year survey through the 1979 fourth follow-up survey. The racial/ethnic mix of the study sample was 20.3% black, 4.0% hispanic, 72.6% white, and 3.1% other (N = 832).

Multiple regression analysis was the analytical tool selected for analyzing the data within this study. The study's predetermined significance level was $p \leq .10$. In order to test the significance of the five overall relationships and individual Beta coefficients, three F test procedures were used. In the five multiple regressions used in this study, twenty independent variables and one dependent variable were employed.

From examining the post-secondary educational attainment of male military enlistees, several noteworthy findings emerged: 1) among male military enlistees, there did exist a significant relationship between socioeconomic status/family background factors and post-secondary education; 2) the educational aspiration factors of male military enlistees were significantly related to the post-secondary education; 3) educational/academic performance factors were significantly related to the post-secondary educational attainment of male military enlistees; 4) military factors were also significantly related to the post-secondary educational attainment of male enlistees; and 5) when the socioeconomic status/family background factors, educational aspiration factors, educational/academic performance factors, and military factors were considered in unison, they were significantly related to the post-secondary educational attainment of male military enlistees.

Besides the overall relationships between the stated factors and educational attainment, the results of this investigation revealed that a number of individual independent variables were important predictors of educational attainment. It was found that mother's educational aspirations for children, mother's education, father's occupation, high school grade point average, student aptitude, student high

school program, reason for entering the military -- to receive in-service college education, and educational plans after military service -- college were individually all significant predictors of educational attainment of male military enlistees.

Summary of Findings and Discussion:

Research Question 1

1. When socioeconomic status/family background factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

In this study Family Income, Literary Objects in the Home, Father's Education, Mother's Education, Father's Occupation, and Mother's Occupation were the independent variables used as measures of the socioeconomic status/family background of male military enlistees. These variables were regressed on the dependent variable Educational Attainment. The findings from this multiple regression analysis indicated that a significant relationship did exist between socioeconomic status/family background and educational attainment. These findings provide further evidence of the importance of socioeconomic status/family background in explaining education attainment. These results were consistent with those reported by Stafford (1984), Sewell and Hauser (1975), and Robertshaw and Wolfle (1983).

To discern more clearly the influence of these socioeconomic factors on educational attainment, attention was focused on the individual contributions of the specific independent variables as adequate predictors of Educational Attainment. After appraising the Beta coefficients of each independent variable, only Mother's Education and Father's Occupation prove to be adequate predictors of Educational Attainment.

In terms of Mother's Education, Wilson (1987) found similar results for young black adults. Respondents in her study "whose mothers' had completed more years of schooling had significantly higher educational attainment." Even though Wilson's findings were generalized for blacks only, her findings may still be relevant for this study's results. Particularly in light of Wolfle (1985) education attainment findings. Wolfle asserts that the "process of educational attainment is not different for blacks and whites."

Perhaps what accounts for the mother's educational influence on her enlistee's educational attainment was the time spent with them as children. Mothers compared to fathers may have spent more time with her children. As a consequence, the mother's educational influence may have been more influential in setting the educational goals of her children. Therefore educated mothers would tend to bestow higher educational aspirations on her children. However, Featherman and

Carter (1976) found that both parents have a significant (positive slope) effect on educational attainment. Sewell and Hauser (1975) also found that both parents contribute significantly to the educational attainment of their sons. They assert that "sons of parents with only grade school education obtained on the average one and one-fourth years fewer years of higher education than the sons of parents who were college graduates -- even when their fathers had similar jobs and their families had similar incomes." To reconcile the differences between the importance of mother's and father's education as predictors or education attainment of male military enlistees, further analysis would be required. Possibly reconciling the differences would come with the employment of a casual or structural model like the Linear Structural Equation (LISREL).

Father's Occupation is an important factor in determining or influencing family earnings and subsequent socioeconomic status (Sewell and Hauser, 1975). And, if socioeconomic status (when measured using Father's Occupation) is an important determinant of children's educational attainment as reported by Sewell and Shah (1967), and Robertshaw and Wolfle (1983), then it came to no surprise that Father's Occupation was found in this study to be significantly related to educational attainment. Father's Education was not found in this study to be significantly related

to educational attainment; this was unexpected since Father's Education has been linked to occupational success of an individual -- with subsequent positive effects on children educational attainment (Duncan et al, 1972; Featherman and Carter, 1976).

Research Question 2

2. When educational aspiration factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

Educational aspiration factors were found in this study to be significantly related to the post-secondary educational attainment of male military enlistees. As stated in Chapter 4, only one of the four predictor variables was related individually to Educational Attainment. That independent variable was Mother's Educational Aspirations for Children. It was found that mother's who had high educational aspirations for their children were rewarded with high levels of sibling educational attainment. This finding was supportive of Hurlock's (1973) contention that parents were influential in passing on to their children their levels of aspirations. Only under the confines of the collective or overall equation did the Father's Educational Aspirations for Children find importance. However, as an individual predictor the Father's Educational Aspirations for Children variable was not significant.

Research Question 3

3. When educational/academic performance factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

Educational/academic performance factors were significantly related to Educational Attainment. In fact, the overall regression equation was significant at $p \leq .001$. These findings were quite consistent with those found by Robertshaw and Wolfle (1983), Wilson (1987), and Sewell and Shah (1967).

In this regression equation each independent variable (High School Grade Point Average, Student Aptitude, and Student High School Program) was individually a significant predictor of Educational Attainment.

These results were consistent with Sewell and Shah (1967) findings, that indicated that intelligence or academic performance had a greater influence on educational attainment than socioeconomic status. Robertshaw and Wolfle (1983) also reported that "both ability and higher grades in high school lead to greater amounts of education."

Wolfle's (1985) findings were also supportive of this study's results. Wolfle indicated that the "membership in an academic track [program] is the best predictor of post-secondary educational attainment for

both whites and blacks. Inclusion in an academic curriculum in high school leads on the average to nearly two more years of schooling after high school graduation." Given the consistency of these findings, it was no surprise that this study found in general similar results. Nevertheless, a caveat is in order. Even though the selected independent variables were significantly related to educational attainment, they only explained 8.7 percent of the overall equation variance.

Research Question 4

4. When military factors were taken alone, how did they relate to the post-secondary educational attainment of male military enlistees?

Military factors were significantly related to the post-secondary educational attainment of male military enlistees. In this study, six independent variables were regressed on educational attainment. They were: Reason for Entering the Military -- To Receive In-service College Education; Reason for Entering the Military -- In-service College Education; Specialized Schooling Received First Year of Military Service; Plan to Use GI Bill to further Education; Educational Plans After Military Service -- College; and Educational Plans After Military Service -- Vocational. Of these variables, only Reason for Entering the Military -- To Receive In-service College (ISCE) and Educational Plans

after Military Service -- Vocational (EPASVOC) were individually significant indicators of educational attainment.

The fact that In-Service College (ISCE) was a significant predictor of educational attainment was not surprising. Kolstad (1986) and Segal and Bachman have argued that the military has attracted many recruits because of the educational opportunities offered. Entering the Military to Receive an In-service College Education is an incentive for enlistees with post-secondary educational plans. Kolstad (1986) argued that young enlistees "see their service in the context of their educational plans for the future."

Again, not surprising to find that enlistees who plan to acquire vocational education after military service was related negatively to educational attainment. Perhaps enlistees who expect to enter vocational training facilities after the military also plan not to enter college programs or in fact, plan to delay further their entry into higher education. One or both of these possibilities may explain the negative slope of the Educational Plans After Military Service -- Vocational variable. What was surprising, was the Plan(s) to use the GI Bill to further education was not significantly related to educational attainment. This study's findings did not support Jere Cohen's assertion on the importance of the GI Bill in influencing

educational attainment.

Research Question 5

5. When socioeconomic status/family background factors, educational aspiration factors, educational/academic performance factors, and military factors were considered in unison, how did they relate to the post-secondary educational attainment of male military enlistees?

When all of the socioeconomic status/family background, educational aspiration, educational/academic performance and military factors were regressed in unison on educational attainment, it was found that these factors were significantly related to the post-secondary educational attainment of male military enlistees. The R-square for this multiple regression equation was .18318. The significance of the relationship between all of the variable factors and educational attainment was high; the relationship was significant at $p \leq .001$.

These results were not overly surprising since the equation was built from prior significantly related variables from the first four equations. However, determining which factors were most important in explaining educational attainment was very important in this analysis. Examination of the individual contributions of each independent variable provided that type of information. Only Mother's Educational

Aspirations for Children and Mother's Education were individually adequate predictors of educational attainment.

Research Limitations

This study must acknowledge several limitations in reference to the interpretations of these findings. The length of the longitudinal period, if longer, could have possibly generated a different set of results. Possibly, a longer time period may have allowed more enlistees to further their education attainment. Unfortunately, this analysis could not control for the length of time in the military.

Perhaps those enlistees who left the service after one enlistment achieve greater levels of educational attainment. This study was not able to test this phenomena. However, Fredland and Little (1984) maintain that the longer the enlistment the greater the opportunity for in-service educational attainment. In another study which may attempt to replicate this study's findings, enlistee service term should be included as a research factor.

Women were not included in this study. In any further analysis, women should be analyzed in terms of their factor relationships with educational attainment and military service. Unfortunately use of the National Longitudinal Study survey for this purpose will not be possible for inferential analysis. The sample size was

quite small; less than 100 valid cases (that is, if the sample selection criteria are based on that selected for men in this study).

The influence of significant others was not directly measured in this analysis. In future research this topic area should be included.

The relationships in this analysis were not generated using casual models, i.e., path analysis and the LISREL model. In future research on the educational attainment of military enlistees, these models should be employed. The findings generated in this analysis may have been enhanced if a casual model was used. The independent variables found in this study would serve as the exogenous variables and the dependent variable, education attainment would serve as the endogenous variable in these suggested casual models.

Conclusion

From the literature cited and the results of this study, what do we now know? In general, the male military enlistee population is not that much different from the non-military population when it was comes to factors or variables which influence the post-secondary educational attainment level. The results of this study indicated that socioeconomic status/family background, educational aspiration, educational/academic performance and military factors were significantly related to the post-secondary educational attainment of male military

enlistees.

Besides the overall factor relationships with educational attainment, the results of this investigation also revealed that the following were all significant predictors of post-secondary educational attainment of male military enlistees: mother's education, father's occupation, high school grade point average, student aptitude, student high school program, reason for entering the military -- to receive in-service college education, and educational plans after military service -- college.

The findings of this study suggested that mother's educational aspirations for her children and mother's education were the two best predictors of post-secondary educational attainment of male military enlistees. These findings also, suggested that the higher the mother's educational aspiration level for her children and the mother's educational attainment level, the higher the expected educational attainment level of her son or male guardian enlistee.

Perhaps what accounted for these results was the amount of time mothers spent with their military enlistees when they were children. Comparatively, the mother may have spent more time with the children than the father. As a consequence, the mother was more influential in setting the educational goals of her children to be similar to her own.

Given today's changes in the labor force (more working mothers from two parent households and a greater number of families headed by single working mothers) the results of this study may be different if replicated using the 1990 high school cohort. Therefore, future enlistee's educational attainment results may be different from those reported in this study. If mothers become less influential in setting educational goals because of less time spent with their children, will fathers become more influential in this area? Which parent, if any, will have the greater influence on the educational attainment level of male military enlistees in the future? Perhaps, findings from the 1990 high school class cohort will clarify these issues.

Implications

There are several implications for the utilization of this study's findings. first and foremost is the credance it lends to previous studies which have addressed educational attainment of military enlistees. For the military recruiter, this study supports the assertion that there exists a significant relationship between the socioeconomic status/family background, educational aspirations, educational/academic performance and military factors and educational attainment of military enlistees.

The military recruiter would also know that taking these factors into consideration is important when

predicting the educational attainment success of a potential enlistee.

Given such findings, it is clear that the military should use more factors than the Armed Forces Vocational Aptitude Battery (ASVAB) and a high school diploma as indicators for predicting the likelihood of trainability and success in the military.

Military recruiters might make use of the strong significants between mother's educational level and her aspiration level for her son or male guardian by interviewing not only the potential enlistee but his mother. Questions concerning mother's educational attainment level might be added to the written evaluation criteria that each potential enlistee must complete before entering the military. In so doing, the military may increase its probability of selecting that potential "Quality" recruitm that is, the recruit who has the ability to learn.

Parents of potential recruits may use these findings to emphasize that the use of the GI Bill to further a son's post-secondary education may not be a valid incentive offered by the military.

At present the subdiscipline of armed services adult education (a field now recognized by the American Association for Adult and Continuing Education [AAACE]) is functioning without clearly established theoretical structure. In the armed services adult education field,

it has only been within the last three years that real-world phenomena been observed, defined, and classified for theoretical development. This study's focus on the educational attainment of military enlistees has provided input data for creating theoretical structure in the field of armed services adult education.

In developing a theoretical structure, rules of logic or of causality are important. On such rule is the "inventory of determinants" "in which one list the various independent variables which influences a particular dependent variable" (Smith, 1975). This study included several explanations of educational attainment of military enlistees, one example being, the educational/academic performance factors were significantly related to the post-secondary educational attainment of male military enlistees.

A second rule is the rule of "inventory of result" where "in contrast to an inventory of determinants, this list of propositions shows the dependent variable [as the] consequence of a particular independent variable" (Smith, 1975). Educational attainment of male military enlistees is explained by four factors found in this study.

Now that knowledge has been generated on how socioeconomic/family background, educational aspiration, educational/academic performance and military factors relate to educational attainment of military enlistees

hypothesis can be generated to test the strength of these relationships. In other words, as a consequence of this study's results, other researchers are now in a position to test the significance of these findings using control variables. The simple use of control variables will lead to great deal of additional research.

Today's armed services is a citizen's service. The focus is changing from the individual service man, his travels and his independents within the service to a family oriented military. Today the military is concerned about the servicemen's family life, the number of his dependents, housing cost, stability of marriage and how these entities effect his post-secondary educational level. Research in these subject areas can now be undertaken by using the results of this study as the theoretical structure for establishing hypothesis for research. Variables like family size, housing cost, and marriage stability can be used as control variables for measuring the influence they have on the relationships found in this study and educational attainment. In addition, the results of this study could be used as input elements for developing causal models for studying labor productivity and educational attainment in the armed forces.

All of these possibilities now exist because this study revealed research fundamental areas within a new

discipline without adequate theory and established hypothesis. As Harvey (1969) asserts: "the formal statement of a theory requires the elimination of inexactness" and with that elimination research conclusions take on a form of certainty and logical validity -- hence the process of theory development has begun. If for no other purpose it is hoped that the findings of this study will serve as impetus for theoretical development in a new field of adult education -- armed services adult education.

Discussion

The scope of the research undertaken in this study was limited to the size of the study sample, the pre-design survey instrument, and the time frame of the analysis. As a consequence of the sample size (845) specific variables like length of time in the service could be injected into the analysis. This one variable could have produced a whole new set of results and subsequent interpretations. Perhaps length of time in the service is the most important predictor of educational attainment of male military enlistees. Only replication using a larger sample will clarify this point.

The pre-design nature of the survey did not lend itself to testing and including a larger set of independent variables. If the variable selection had been larger, possibly the amount of variance explained

could have been increased for each regression equation.

The 1972-1979 time frame of the analysis, if increased, may lead to a different set of results. Possibly, "time" alone is the conditioner or mediator of the resutls found in this study. If possible, future researchers must design and construct longitudinal instruments which are specific to studying educational phenomena related soley to the military. In brief, the findings that were obtained from the analysis in this study must await replication by more adequate samples on military enlistees. Without question additional research in the area of educational attainment and military enlistees is clearly needed.

APPENDIX A

Adjusted Frequency Distributions

of the Study Sample

Variables	F	%	Cum %	N
INDEPENDENT VARIABLES				
Family Income ($/Yr)				679
< 3000	65	9.6	9.6	
3000 - 5999	91	13.4	23.0	
6000 - 7499	98	14.4	37.4	
7500 - 8999	71	10.5	47.9	
9000 - 10499	77	11.3	59.2	
10500 - 11999	61	9.0	68.2	
12000 - 13499	65	9.6	77.8	
13500 - 14999	49	7.2	85.0	
15000 - 18000	47	6.9	91.9	
>18000	55	8.1	100.0	
Literary Objects in the Home				
Newspaper				763
Have	623	81.7	81.7	
Do not have	140	18.3	100.0	
Dictionary				766
Have	743	97.0	97.0	
Do not have	23	3.0	100.0	
Encyclopedia				766
Have	638	83.0	83.3	
Do not have	128	16.7	100.0	

Variables	F	%	Cum %	N
Magazines				762
Have	674	88.5	88.5	
Do not have	88	11.5	100.0	
Father's Education				789
None/grade school	120	15.2	15.2	
Not finish high school	202	25.6	40.8	
Finish high school	248	31.4	72.2	
< 2 years vocational	49	6.2	78.5	
≥ 2 years vocational	52	6.6	85.0	
Some college	48	6.1	91.0	
Finished college	36	4.6	95.7	
M.A.	26	3.3	99.0	
Ph.D, M.D.	8	1.0	100.0	
Mother's Education				800
None/grade school	88	11.0	11.0	
Not finish high school	212	26.5	37.5	
Finish high school	346	43.2	80.7	
< 2 years vocational	41	5.1	85.9	
≥ 2 years vocational	44	5.5	91.4	
Some college	35	4.4	95.7	
Finished college	25	3.1	98.9	
M.A.	8	1.0	99.9	
Ph.D., M.D.	1	.1	100.0	

Variables	F	%	Cum %	N
Father's Occupation				455
Clerical	7	1.7	1.7	
Craftsmen	92	21.9	23.6	
Homemaker	14	3.3	26.9	
Farmer	2	.5	27.4	
Laborer	71	16.9	44.3	
Manager	45	10.7	55.0	
Military	29	6.9	61.9	
Operative	48	11.4	73.3	
Professional	36	8.6	81.9	
Proprietor	15	3.6	85.5	
Protective	15	3.6	89.0	
Sales	20	4.8	93.8	
Service	15	3.6	97.4	
Technical	11	2.6	100.0	
Mother's Occupation				455
Clerical	55	12.1	12.1	
Craftsmen	6	1.3	13.4	
Homemaker	3	.7	14.1	
Farmer	249	54.7	68.8	
Laborer	14	3.1	71.9	
Manager	8	1.8	73.6	
Military	3	.7	74.3	
Operative	23	5.1	79.3	
Professional	26	5.7	85.1	

Variables	F	%	Cum %	N
Proprietor	6	1.3	86.4	
Protective	1	.2	86.6	
Sales	13	2.9	89.5	
Service	47	10.3	99.8	
Technical	1	.2	100.0	
Father's Educational Aspirations for Children				531
Quit high school	3	.6	.6	
Graduate from high school	77	14.5	15.1	
Graduate high school go vocational school	146	27.5	42.6	
Two years of college	56	10.5	53.1	
Fours years of college	196	36.9	90.0	
Professional school after college	53	10.0	100.0	
Mother's Educational Aspirations for Children				570
Quit high school	4	.7	.7	
Graduate from high school	77	13.5	14.2	
Graduate high school go vocational school	142	24.9	39.1	
Two years of college	71	12.5	51.6	
Four years of college	211	37.0	88.6	
Professional school after college	65	11.4	100.0	

Variables	F	%	Cum %	N
Educational Aspirations Established During the First Year in the Military				808
High school only	60	7.4	7.4	
< 2 yrs vocational	53	6.6	14.0	
≥ 2 yrs vocational	160	19.8	33.8	
Some college (2 yr degree)	118	14.6	48.4	
Finish college	274	33.9	82.3	
M.A.	88	10.9	93.2	
Ph.D., M.D.	55	6.8	100.0	
High School Grade Point Average				780
Below D	1	.1	.1	
Mostly D	12	1.5	1.7	
Half C-D	78	10.0	11.7	
Mostly C	175	22.4	34.1	
Half B-C	264	33.8	67.9	
Mostly B	145	18.6	86.5	
Half A-B	84	10.8	97.3	
Mostly A	21	2.7	100.0	
Student Aptitude				569
Lower quartile	219	38.5	38.5	
Middle quartile	266	46.7	85.2	
Upper quartile	84	14.8	100.0	

Variables	F	%	Cum %	N
Study High School Program				843
General	394	46.7	46.7	
Academic	225	26.7	73.4	
Vocational	224	26.6	100.0	
High School Educational Aspirations				357
< High school	6	1.7	1.7	
High school	22	6.1	7.8	
High school plus vocational	95	26.6	34.5	
Junior college	31	8.7	43.1	
4 yrs. college	104	29.1	72.3	
Professional school after college	99	27.7	100.0	
Reason for Entering the Military -- to Receive In-Service College Education				226
Not important	63	27.9	27.9	
Somewhat important	80	35.4	63.3	
Very important	83	36.7	100.00	
Specialized Schooling Received First Year of Military Service				582
Business	88	15.1	15.1	
Computer	19	3.3	18.4	
Health	40	6.9	25.3	
Mech./Engineering	252	43.3	68.6	
Services	61	10.5	79.0	
Other	122	21.0	100.0	

Variables	F	%	Cum %	N
Reason for Entering the Military -- to Received In-Service Vocational Training				228
Not important	29	12.7	12.7	
Somewhat important	65	28.5	41.2	
Very important	134	58.8	100.0	
Plan to Use GI Bill to Further Education				693
Yes	613	88.5	88.5	
No	80	11.5	100.0	
Educational Plans After Military Service -- College				660
Applies to me	429	65.0	65.0	
Does not apply to me	231	35.0	100.00	
Educational Plans After Military Service -- Vocational				642
Applies to me	251	39.0	39.0	
Does not apply to me	391	61.0	100.0	
Race				832
Black	169	20.3	20.3	
Hispanic	33	4.0	24.3	
White	604	72.6	96.9	
Other	26	3.1	100.0	
DEPENDENT VARIABLE				
Educational Attainment				845
No college, no voc.	372	44.0	44.0	
No college, < 2 yrs voc.	86	10.2	54.2	
No college, ≥ 2 yrs voc.	25	3.0	57.2	

Variables	F	%	Cum %	N
< 2 yrs college, no voc.	83	9.8	67.0	
< 2 yrs college, < 2 yrs voc.	109	12.9	79.9	
< 2 yrs college, ≥ 2 yrs voc.	25	3.0	82.8	
≥ 2 yrs college, no voc.	57	6.7	89.6	
≥ 2 yrs college, < 2 yrs voc.	18	2.1	91.7	
≥ 2 yrs college, ≥ 2 yrs voc.	46	5.4	97.2	
Finish college, no voc.	15	1.8	98.9	
Finish college, < 2 yrs voc.	4	.5	99.4	
Finish college, ≥ 2 yrs voc.	5	.6	100.0	
M.A. college, no voc.	-	-	-	
M.A. college, < 2 yrs voc.	-	-	-	
M.A. college, ≥ 2 yrs voc.	-	-	-	
Ph.D. or eq. college, no voc.	-	-	-	
Ph.D. or eq. college, <2 yrs voc.	-	-	-	
Ph.D. or eq. college, ≥2 yrs voc.	-	-	-	

F = Frequency

% = Percentages

Cum % = Cumulative Percentages

N = Number of valid cases

N - 845 (the total sample size) = number of missing cases

(Adjusted frequencies were computed by using the total number of valid cases as the base from which all percentages were calculated.)

APPENDIX B

Dummy Variable Vector Assignments

Independent Variables	IN	OUT	F
Literary objects in the home (LOIH)			
Daily Newspaper (PAPER)	1	0	623
Dictionary (DICTION)	1	0	743
Encyclopedia (ENCY)	1	0	638
Magazine (MAGA)	1	0	674
Father's occupation (FOCC)			
Clerical (D1)	1	0	7
Craftsmen (D2)	1	0	92
Homemaker (D3)	1	0	14
Farmer (D4)	1	0	2
Laborer (D5)	1	0	71
Manager (D6)	1	0	45
Military (D7)	1	0	29
Operative (D8)	1	0	48
Professional (D9)	1	0	36
Proprietor (D10)	1	0	15
Protective (D11)	1	0	15
Sales (D12)	1	0	20
Service (D13)	1	0	15
Mothers's occupation (MOCC)			
Clerical (D14)	1	0	55
Craftsmen (D15)	1	0	6
Homemaker (D16)	1	0	3
Farmer (D17)	1	0	249

Independent Variables	IN	OUT	F
Laborer (D18)	1	0	14
Manager (D19)	1	0	8
Military (D20)	1	0	3
Operative (D21)	1	0	23
Professional (D22)	1	0	26
Proprietor (D23)	1	0	6
Protective (D24)	1	0	1
Sales (D25)	1	0	13
Service (D26)	1	0	47
Student High School Program (HSPGM)			
General (D1)	1	0	394
Academic (D2)	1	0	225
Specialized Schooling Received first year of military service (RSS)			
Business (D1)	1	0	88
Computer Technology (D2)	1	0	19
Health Professions (D3)	1	0	40
Mechanical/Engineering Tech (D4)	1	0	252
Services (D5)	1	0	61
Plan to use GI bill to further education (GI BILL)			
Applies to me (yes)	1	0	613
Educational plans after military service -- college (EPASCOL)			
Applies to me (yes)	1	0	429
Educational plans after military service -- vocational (EPASVOC)			
Applies to me (yes)	1	0	251

Independent Variables	IN	OUT	F
Race (CRACE)			
Black (D16)	1	0	169
Hispanics (D17)	1	0	33
White (D18)	1	0	604

IN = Value assigned if observation (case) was in category.

OUT = Value assigned if observation (case) was not in the category.

F = Frequency of observations coded as 1.

APPENDIX C

Manually Computed F Ratios for Testing

a Subset of Beta Coefficients

Formula:

$$F = \frac{(R^2_{y.12...K_1} - R^2_{y.12...K_2})/K_1 - K_2}{(1 - R^2_{y.12...K_1})/(N-K_1-1)}$$

Research Question 1 Computations:

Literary Objects in the Home (LOIH) $= \frac{.06896 - .06679/4}{1 - .06896/631-33-1} = \frac{.00217/4}{.93104/597} = .3478679$

Father's Occupation (FOCC) $= \frac{.06896 - .03398/13}{1 - .06896/631-33-1} = \frac{.03498/13}{.93104/597} = 1.7243607$

Mother's Occupation (MOCC) $= \frac{.06896 - .05628/13}{1 - .06896/631-33-1} = \frac{.01268/13}{.93104/597} = .3047771$

Research Question 3 Computations:

Student HS Program (HSPGM) $= \frac{.08680 - .06776/2}{1 - .08680/567-4-1} = \frac{.01904/2}{.9132/562} = 5.8588221$

Research Question 4 Computations:

Specialized Schooling Received First Year of Military Service (RSS) $= \frac{.15673 - .12355/5}{1 - .15673/147-10-1} = \frac{.03318/5}{.84327/136} = 1.0702363$

Research Question 5 Computations:

Father's Occupation (FOCC) $= \frac{.18318 - .13621/13}{1 - .18318/296-23-1} = \frac{.04697/13}{.81682/272} = 1.2031302$

Student HS Program (HSPGM) $= \frac{.18318 - .17243/2}{1 - .18318/296-23-1} = \frac{.01057/2}{.81682/272} = 1.7599067$

Race (CRACE) $= \frac{.18318 - .18286/3}{1 - .18318/296-23-1} = \frac{.00032/3}{.81682/272} = .0354978$

APPENDIX D

Educational Attainment (EDAT) Code Development

or Response Category Value Assignments

		Vocational, Trade, Business Education		
FT66 Response Code --		(0)	(2)	(2)
		No	<2 Yrs	≥ 2 Yrs
FT67 Response Code				
(0)	No	0*	1	2
(1)	< 2 Yrs	3	4	5
(2)	≥ 2 Yrs	6	7	8
(3)	Fin Col	9	10	11
(4)	M.A.	12	13	14
(5)	Ph.D. or eqiv.	15	16	17

* The 0 to 17 values represent the category values assigned to the newly created EDAT variable.

Appendix E-1

Computer Output for Socioeconomic Status/Family Background Factors and Educational Attainment

Mean, Standard Deviation, Number of Cases

VARIABLE	MEAN	STANDARD DEV	CASES
FAIN	5.0428	2.7671	631
PAPER	.8146	.3889	631
DICTION	.9699	.1710	631
ENCY	.8257	.3797	631
MAGA	.8732	.3330	631
FED	3.2092	1.9183	631
MED	3.0063	1.4992	631
D1	.0079	.0887	631
D2	.1173	.3220	631
D3	.0127	.1120	631
D4	.0016	.0398	631
D5	.0935	.2914	631
D6	.0571	.2321	631
D7	.0380	.1914	631
D8	.0650	.2467	631
D9	.0475	.2130	631
D10	.0206	.1422	631
D11	.0174	.1310	631
D12	.0301	.1710	631
D13	.0222	.1474	631
D14	.0713	.2576	631
D15	.0079	.0887	631
D16	.0048	.0688	631
D17	.3185	.4663	631
D18	.0158	.1250	631
D19	.0095	.0971	631
D20	.0016	.0398	631
D21	.0333	.1795	631
D22	.0380	.1914	631
D23	.0095	.0971	631
D24	.0016	.0398	631
D25	.0158	.1250	631
D26	.0602	.2381	631
EDAT	2.5436	2.8659	631

Correlation Coefficients

CORRELATION COEFFICIENTS

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

	FAIN	PAPER	DICTION	ENCY	MAGA	FED	MED	D1	D2	D3	D4	D5
FAIN	1.00000	.32890	.12012	.20956	.20228	.38525	.27083	.04387	-.04127	-.04274	.05702	-.12900
PAPER	.32890	1.00000	.17841	.24295	.18587	.20737	.15174	.04264	-.02888	-.05528	.01901	-.01485
DICTION	.12012	.17841	1.00000	.26125	.18370	.09180	.09360	.01575	.00658	.01997	.00702	-.07082
ENCY	.20956	.24295	.26125	1.00000	.18899	.07412	.13022	.04107	-.04024	-.05994	.01831	-.03895
MAGA	.20228	.18587	.18370	.18899	1.00000	.16086	.19557	.03405	.02046	.00061	.01518	.00786
FED	.38525	.20737	.09180	.07412	.16086	1.00000	.56250	.04620	-.05006	-.03454	.09958	-.15148
MED	.27083	.15174	.09360	.13022	.19557	.56250	1.00000	-.02424	.05107	-.00994	-.00017	-.12128
D1	.04387	.04264	.01575	.04107	.03405	.04620	-.02424	1.00000	-.03258	-.01013	-.00356	-.02870
D2	-.04127	-.02888	.00658	-.04024	.02046	-.05006	.05107	-.03258	1.00000	-.04130	-.01452	-.11706
D3	-.04274	-.05528	.01997	-.05994	.00061	-.03454	-.00994	-.01013	-.04130	1.00000	-.00451	-.03639
D4	.05702	.01901	.00702	.01831	.01518	.09958	-.00017	-.00356	-.01452	-.00451	1.00000	-.01280
D5	-.12900	-.01485	-.07082	-.03895	.00786	-.15148	-.12128	-.02870	-.11706	-.03639	-.01280	1.00000
D6	.09257	-.00571	.00336	.04099	.01159	.11218	.07650	-.02198	-.08966	-.02787	-.00980	-.07900
D7	.05685	-.01172	.03504	.00401	.07577	.12094	.10424	-.01777	-.07248	-.02253	-.00792	-.06386
D8	-.07849	-.03967	-.10405	-.03140	-.01550	-.14952	-.16422	-.02356	-.09608	-.02987	-.01050	-.08466
D9	.16893	.10659	.03937	.04377	.08513	.32141	.14323	-.01997	-.08144	-.02532	-.00890	-.07175
D10	.07442	.01178	.02556	-.02158	.02173	.03656	.10365	-.01296	-.05286	-.01644	-.00578	-.04658
D11	.10305	.06355	.02347	.06120	.01436	.04864	.05602	-.01190	-.04855	-.01509	-.00531	-.04278
D12	.02411	-.03524	.03105	.03207	-.04435	.09205	.09830	-.01575	-.06422	-.01997	-.00702	-.05659
D13	-.09573	-.01119	.02654	-.01587	-.10429	-.07257	-.05810	-.01346	-.05490	-.01707	-.00600	-.04838
D14	.03357	.03714	.01279	-.01875	.06858	.14003	.10982	.11414	.05211	-.03140	-.01104	.03791
D15	-.09835	.04264	.01575	-.00605	-.01967	-.00043	-.03617	-.00799	.02298	-.01013	-.00356	.09409
D16	.03226	-.08559	.01218	.03176	.02634	-.05562	-.00029	-.00618	.18962	-.00783	-.00275	-.02220
D17	-.02411	-.08517	-.05867	.02725	-.04617	-.06929	-.07783	.01563	.09967	.10494	.05827	.10756
D18	-.07081	-.03741	.02236	-.04204	.01021	-.10653	-.08525	-.01134	-.00681	-.01438	-.00506	.26436
D19	-.05467	-.03729	.01726	.00198	-.06082	.01486	-.01132	-.00876	.01504	-.01110	-.00390	-.03147
D20	.05702	.01901	.00702	.01831	.01518	-.00435	-.00017	-.00356	-.01452	-.00451	-.00159	-.01280
D21	-.08276	-.02515	.03269	-.07776	-.03552	-.04791	-.10695	-.01658	.12460	-.02103	-.00739	.03145
D22	.09880	.00959	.03504	.09137	.07577	.20306	.33101	-.01777	.05628	.05152	-.00792	-.06386
D23	.06936	.04675	.01726	.00198	.03733	.03190	.02139	-.00876	-.03571	-.01110	-.00390	-.03147
D24	.01379	.01901	.00702	.01831	.01518	-.02513	-.00017	-.00356	-.01452	-.00451	-.00159	-.01280
D25	.00722	-.03741	.02236	-.00859	-.02792	.05897	.02488	-.01134	-.00681	-.01438	-.00506	.09001
D26	-.07379	-.05064	.00562	-.05927	-.04369	-.02763	-.05444	.05251	.13548	-.02869	-.01009	.01023
EDAT	.02308	-.00057	.00106	.04054	-.01416	.10083	.12702	-.04817	.00133	.01806	.02026	.03598

	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17
FAIN	.09257	.05685	-.07849	.16893	.07442	.10305	-.02411	-.09573	.03357	-.09835	-.03226	-.02411
PAPER	-.00571	-.01172	-.03967	.10659	.01178	.06355	-.03524	-.01119	.03714	.04264	-.08559	-.08517
DICTION	.00336	.03504	-.10405	.03937	.02556	.02347	.03105	.02654	.01279	.01575	.01218	-.05867
ENCY	.04099	.00401	-.03140	.04377	-.02158	.06120	.03207	-.01587	-.01875	-.00605	.03176	.02725
MAGA	.01159	.07577	-.01550	.08513	.02173	.01436	-.04435	-.10429	.06858	-.01967	.02634	-.04617
FED	.11218	.12094	-.14952	.32141	.03656	.04864	.09205	-.07257	.14003	-.00043	-.05562	-.06929
MED	.07650	.10424	-.16422	.14323	.10365	.05602	.09830	-.05810	.10982	-.03617	-.00029	-.07783
D1	-.02198	-.01777	-.02356	-.01997	-.01296	-.01190	-.01575	-.01346	.11414	-.00799	-.00618	.01563
D2	-.08966	-.07248	-.09608	-.08144	-.05286	-.04855	-.06422	-.05490	.05211	-.02298	.18962	.09967
D3	-.02787	-.02253	-.02987	-.02532	-.01644	-.01509	-.01997	-.01707	-.03140	-.01013	-.00783	.10494
D4	-.00980	-.00792	-.01050	-.00890	-.00578	-.00531	-.00702	-.00600	-.01104	-.00356	-.00275	.05827
D5	-.07900	-.06386	-.08466	-.07175	-.04658	-.04278	-.05659	-.04838	.03791	.09409	-.02220	.10756
D6	1.00000	-.04891	-.06484	-.05496	-.03568	-.03276	-.04334	-.03705	.09114	-.02198	-.01700	.15446
D7	-.04891	1.00000	-.05242	-.04443	-.02884	-.02649	-.03504	-.02995	.00929	-.01777	-.01374	.05966
D8	-.06484	-.05242	1.00000	-.05890	-.03823	-.03511	-.04645	-.03971	.00190	-.02356	-.01822	.12337
D9	-.05496	-.04443	-.05890	1.00000	-.03240	-.02976	-.03937	-.03365	.11172	-.01997	-.01544	.02308
D10	-.03568	-.02884	-.03823	-.03240	1.00000	-.01932	-.02556	-.02185	.00316	-.01296	-.01002	.02057
D11	-.03276	-.02649	-.03511	-.02976	-.01932	1.00000	-.02347	-.02006	.01014	-.01190	-.00921	.09086
D12	-.04334	-.03504	-.04645	-.03937	-.02556	-.02347	1.00000	-.02654	.09531	-.01575	-.01218	.03877
D13	-.03705	-.02995	-.03971	-.03365	-.02185	-.02006	-.02654	1.00000	.00007	-.01346	-.01041	.05867
D14	.09114	.00929	.00190	.11172	.00316	.01014	.09531	.00007	1.00000	-.02477	-.01915	-.18946
D15	-.02198	-.01777	-.02356	-.01997	-.01296	-.01190	-.01575	-.01346	-.02477	1.00000	-.00618	-.06110
D16	-.01700	-.01374	-.01822	-.01544	-.01002	-.00921	-.01218	-.01041	-.01915	-.00618	1.00000	-.04725
D17	.15446	.05966	.12337	.02308	.02057	.09086	.03877	.05867	-.18946	-.06110	-.04725	1.00000
D18	-.03121	-.02523	.01803	-.02835	-.01840	-.01690	-.02236	-.01912	-.03517	-.01134	-.00877	-.08676
D19	-.06630	.06589	-.02583	-.02189	-.01421	-.01305	-.01726	-.01476	-.02715	-.00876	-.00677	-.06699
D20	-.00980	.20036	-.01050	-.00890	-.00578	-.00531	-.00702	-.00600	-.01104	-.00356	-.00275	-.02724
D21	.06864	.00930	.13032	-.04145	-.02691	-.02471	-.03269	-.02795	-.05142	-.01658	-.01282	-.12686
D22	.09397	.04709	-.01880	.18918	.08781	.03682	.01345	-.02995	-.05510	-.01777	-.01374	-.13595
D23	-.02410	.06589	-.02583	-.13159	.21571	.11172	-.01726	-.01476	-.02715	-.00876	-.00677	-.06699
D24	-.00980	-.00792	-.01050	-.00890	-.00578	.29911	-.00702	-.00600	-.01104	-.00356	-.00275	-.02724
D25	-.03121	.04111	.01803	-.03128	-.01840	-.01690	.20041	-.01912	-.03517	-.01134	-.00877	-.08676
D26	-.06227	-.01551	.09543	-.02525	-.10398	-.03372	.07234	.23323	-.07015	-.02262	-.01750	-.17307
EDAT	.04159	.04327	.04426	.05301	-.00026	.00009	.13819	-.05489	.05707	.03297	.02711	.07096

	D18	D19	D20	D21	D22	D23	D24	D25	D26	EDAT
FAIN	-.07081	-.05467	.05702	-.08276	.09880	.06936	.01379	.00722	-.07379	.02308
PAPER	-.03741	-.03729	.01901	-.02515	.00959	.04675	.01901	-.03741	-.05064	-.00057
DICTION	.02236	.01726	.00702	.03269	.03504	.01726	.00702	.02236	.00562	.00106
ENCY	-.04204	.00198	.01831	-.07776	.09137	.00198	.01831	-.00859	-.05927	.04054
MAGA	.01021	-.06082	.01518	-.03552	.07577	.03733	.01518	-.02792	-.04369	-.01416
FED	-.10653	.01486	-.00435	-.04791	.20306	.03190	-.02513	.05897	-.02763	.10083
MED	-.08525	-.01132	-.00017	-.10695	.33101	.02139	-.00017	.02488	-.05444	.12702
D1	-.01134	-.00876	-.00356	-.01658	-.01777	-.00876	-.00356	-.01134	.05251	-.04817
D2	-.00681	.01504	-.01452	.12460	.05628	-.03571	-.01452	-.00681	.13548	.00133
D3	-.01438	-.01110	-.00451	-.02103	.05152	-.01110	-.00451	-.01438	-.02869	.01806
D4	-.00506	-.00390	-.00159	-.00739	-.00792	-.00390	-.00159	-.00506	-.01009	.02026
D5	.26436	-.03147	-.01280	.03145	-.06386	-.03147	-.01280	.09001	.01023	.03598
D6	-.03121	.04630	-.00980	.06864	.09397	-.02410	-.00980	-.03121	-.06227	.04159
D7	-.02523	.06589	.20036	.00930	.04709	.06589	-.00792	.04111	-.01551	.04327
D8	.01803	-.02583	-.01050	.13032	-.01880	-.02583	-.01050	.01803	.09543	.04426
D9	-.02835	-.02189	-.00890	-.04145	.18918	.13159	-.00890	.03128	-.02525	.03301
D10	-.01840	-.01421	-.00578	-.02691	.08781	.21571	-.00578	-.01840	.10398	-.00026
D11	-.01690	-.01305	-.00531	-.02471	.03682	.11172	.29911	-.01690	-.03372	.00009
D12	-.02236	-.01726	-.00702	-.03269	.01345	-.01726	-.00702	.20041	.07234	.13819
D13	-.01912	-.01476	-.00600	-.02795	-.02995	-.01476	-.00600	-.01912	.23323	-.05489
D14	-.03517	-.02715	-.01104	-.05142	-.05510	-.02715	-.01104	-.03517	-.07015	.05707
D15	-.01134	-.00876	-.00356	-.01658	-.01777	-.00876	-.00356	-.01134	-.02262	.03297
D16	-.00877	-.00677	-.00275	-.01282	-.01374	-.00677	-.00275	-.00877	-.01750	.02711
D17	-.08676	-.06699	-.02724	-.12686	-.13595	-.06699	-.02724	-.08676	-.17307	.07096
D18	1.00000	-.01243	-.00506	-.02355	-.02523	-.01243	-.00506	-.01610	-.03212	-.00193
D19	-.01243	1.00000	-.00390	-.01818	-.01948	-.00960	-.00390	-.01243	-.02480	-.00719
D20	-.00506	-.00390	1.00000	-.00739	-.00792	-.00390	-.00159	-.00506	-.01009	-.03539
D21	-.02355	-.01818	-.00739	1.00000	-.03689	-.01818	-.00739	-.02355	-.04697	-.05373
D22	-.02523	-.01948	-.00792	-.03689	1.00000	-.01948	-.00792	-.02523	-.05034	.03169
D23	-.01243	-.00960	-.00390	-.01818	-.01948	1.00000	-.00390	-.01243	-.02480	.00991
D24	-.00506	-.00390	-.00159	-.00739	-.00792	-.00390	1.00000	-.00506	-.01009	.04809
D25	-.01610	-.01243	-.00506	-.02355	-.02523	-.01243	-.00506	1.00000	-.03212	.03352
D26	-.03212	-.02480	-.01009	-.04697	-.05034	-.02480	-.01009	-.03212	1.00000	.00313
EDAT	-.00193	-.00719	-.03539	-.05373	.03169	.00991	.04809	.03352	.00313	1.00000

Multiple Regression Results

DEPENDENT VARIABLE.. EDAT

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	BETA	STD ERROR B	F
FAIN	-.1686475-001	-.01628	.04838	.121
PAPER	-.4943615-001	-.00671	.32753	.023
DICTION	.1852153-001	.00111	.70964	.001
ENCY	.2788697	.03695	.32654	.729
MAGA	-.4386993	-.05097	.36545	1.441
FED	.7593989-001	.05083	.08111	.877
MED	.2004565	.10486	.09886	4.111
D1	-1.426355	-.04416	1.33741	1.137
D2	.1983368	.02228	.48463	.167
D3	.7410448	.02895	1.05792	.491
D4	1.260492	.01751	2.89338	.190
D5	.6855741	.06970	.50333	1.855
D6	.5567045	.04509	.59866	.865
D7	.8085988	.05401	.68065	1.411
D8	1.006867	.08666	.56906	3.131
D9	.2983503	.02217	.66149	.203
D10	-.4361157-001	-.00216	.90226	.002
D11	-.4372202	-.01998	.98469	.197
D12	2.120212	.12653	.76419	7.698
D13	-.8466157	-.04355	.86252	.963
D14	.4043591	.03634	.56044	.521
D15	1.192212	.03691	1.31702	.819
D16	1.442695	.03465	1.73328	.693
D17	.3108502	.05057	.39080	.633
D18	.8959596-001	.00391	.99847	.008
D19	-.1897817	-.00643	1.19938	.025
D20	-2.857557	-.03969	2.92649	.953
D21	-.7528828	-.04716	.73632	1.045
D22	-.1818376	-.01215	.73125	.062
D23	.5202125	.01763	1.27458	.167
D24	4.413608	.06131	3.01024	2.150
D25	-.7646305-001	-.00333	1.00448	.006
D26	.1825949	.01517	.61902	.087
(CONSTANT)	1.562296			

MULTIPLE R	.26260
R SQUARE	.06896
ADJUSTED R SQUARE	.01749
STANDARD ERROR	2.84075

ANALYSIS OF VARIANCE	DF	
REGRESSION	33.	
RESIDUAL	597.	
SUM OF SQUARES	MEAN SQUARE	F
356.83407	10.81315	1.33994
4817.71743	8.06988	

Multiple Regression Summary Table

DEPENDENT VARIABLE.. EDAT

VARIABLE

FAIN	D11
PAPER	D12
DICTION	D13
ENCY	D14
MAGA	D15
FED	D16
MED	D17
D1	D18
D2	D19
D3	D20
D4	D21
D5	D22
D6	D23
D7	D24
D8	D25
D9	D26
D10	(CONSTANT)

SUMMARY TABLE

MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
.02308	.00053	.00053	.02308	-.1686475-001	-.01628
.02465	.00061	.00007	-.00057	-.4943615-001	-.00671
.02465	.00061	.00000	.00106	.1852153-001	.00111
.04693	.00220	.00159	.04054	.2788697	.03695
.05211	.00272	.00051	-.01416	-.4386993	-.05097
.11680	.01364	.01093	.10083	.7593989-001	.05083
.14594	.02130	.00766	.12702	.2004565	.10486
.15325	.02348	.00219	-.04817	-1.426355	-.04416
.15325	.02349	.00000	.00133	.1983368	.02223
.15478	.02396	.00047	.01806	.7410448	.02895
.15555	.02420	.00024	.02026	1.260492	.01751
.16581	.02749	.00330	.03598	.6855741	.06970
.16877	.02848	.00099	.04159	.5567045	.04509
.17247	.02974	.00126	.04327	.8085988	.05401
.19109	.03651	.00677	.04426	1.006867	.08666
.19210	.03690	.00039	.03301	.2983503	.02217
.19210	.03690	.00000	-.00026	-.4361157-001	-.00216
.19211	.03691	.00001	.00009	-.4372202	-.01998
.23505	.05525	.01834	.13819	2.120212	.12653
.23721	.05627	.00102	-.05489	-.3466157	-.04355
.23828	.05678	.00051	.05707	.4043591	.03634
.24070	.05794	.00116	.03297	1.192212	.03691
.24265	.05888	.00094	.02711	1.442695	.03465
.24757	.06129	.00241	.07096	.3108502	.05057
.24766	.06133	.00004	-.00193	.8959596-001	.00391
.24769	.06135	.00001	-.00719	-.1897817	-.00643
.25065	.06283	.00148	-.03539	-2.857557	-.03969
.25505	.06505	.00222	-.05373	-.7528828	-.04716
.25567	.06537	.00032	.03169	-.1818376	-.01215
.25591	.06549	.00012	.00991	.5202125	.01763
.26227	.06879	.00329	.04809	4.413608	.06131
.26234	.06882	.00004	.03352	-.7646305-001	-.00333
.26260	.06896	.00014	.00313	.1825949	.01517
				1.562296	

Appendix E-2

Computer Output for Educational Aspiration Factors and Educational Attainment

Mean, Standard Deviation, Number of Cases

VARIABLE	MEAN	STANDARD DEV	CASES
HSEA	4.5677	1.3206	192
FEAFS	4.0729	1.2385	192
MEAFS	4.1979	1.2375	192
EAFYM	7.7656	17.6680	192
EDAT	3.7344	2.8956	192

Correlation Coefficients

CORRELATION COEFFICIENTS

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

	HSEA	FEAFS	MEAFS	EAFYM	EDAT
HSEA	1.00000	.62756	.63570	.04545	.34359
FEAFS	.62756	1.00000	.82407	.00390	.40106
MEAFS	.63570	.82407	1.00000	-.01200	.43264
EAFYM	.04545	.00390	-.01200	1.00000	.04084
EDAT	.34359	.40106	.43264	.04084	1.00000

Multiple Regression Results

DEPENDENT VARIABLE.. EDAT

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	BETA	STD ERROR B	F
HSEA	.2036672	.09289	.19162	1.130
FEAFS	.2503368	.10707	.27785	.812
MEAFS	.6688253	.28583	.28074	5.676
EAFYM	.6494582-002	.03963	.01075	.365
(CONSTANT)	-1.073626			

MULTIPLE R	.44737
R SQUARE	.20014
ADJUSTED R SQUARE	.18303
STANDARD ERROR	2.61724

ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	4.	320.50976	80.12744	11.69750
RESIDUAL	187.	1280.94337	6.84996	

Multiple Regression Summary Table

DEPENDENT VARIABLE.. EDAT

VARIABLE

HSEA
FEAFS
MEAFS
EAFYM
(CONSTANT)

SUMMARY TABLE

MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
.34359	.11805	.11805	.34359	.2036672	.09289
.41807	.17478	.05673	.40106	.2503368	.10707
.44562	.19857	.02379	.43264	.6688253	.28583
.44737	.20014	.00156	.04084	.6494582-002	.03963
				-1.073626	

Appendix E-3

Computer Output for Educational/Academic

Performance Factors and Educational Attainment

Mean, Standard Deviation, Number of Cases

VARIABLE	MEAN	STANDARD DEV	CASES
HSGP	4.9365	1.2495	567
APTI	1.7637	.6911	567
D1	.4550	.4984	567
D2	.2716	.4452	567
EDAT	2.5608	2.8127	567

Correlation Coefficients

CORRELATION COEFFICIENTS

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

	HSGP	APTI	D1	D2	EDAT
HSGP	1.00000	.32836	-.11807	.21527	.22782
APTI	.32836	1.00000	-.09246	.24346	.19374
D1	-.11807	-.09246	1.00000	-.55798	-.03995
D2	.21527	.24346	-.55798	1.00000	.18573
EDAT	.22782	.19374	-.03995	.18573	1.00000

Multiple Regression Results

DEPENDENT VARIABLE.. EDAT

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	BETA	STD ERROR B	F
HSGP	.3744751	.16636	.09714	14.862
APTI	.4279180	.10514	.17709	5.839
D1	.4816876	.08536	.27454	3.078
D2	1.086366	.17195	.31766	11.696
(CONSTANT)	-.5567009			

MULTIPLE R	.29461
R SQUARE	.08680
ADJUSTED R SQUARE	.08030
STANDARD ERROR	2.69737

ANALYSIS OF VARIANCE	DF
REGRESSION	4.
RESIDUAL	562.

SUM OF SQUARES	MEAN SQUARE	F
388.64992	97.16248	13.35419
4089.00087	7.27580	

Multiple Regression Summary Table

DEPENDENT VARIABLE.. EDAT

VARIABLE

HSGP
APTI
D1
D2
(CONSTANT)

SUMMARY TABLE

MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
.22782	.05190	.05190	.22782	.3744751	.16636
.26030	.06776	.01585	.19374	.4279180	.10514
.26037	.06779	.00004	-.03995	.4816876	.08536
.29461	.08680	.01900	.18573	1.086366	.17195
				-.5567009	

Appendix E-4

Computer Output for Military Factors

and Educational Attainment

Mean, Standard Deviation, Number of Cases

VARIABLE	MEAN	STANDARD DEV	CASES
ISVT	2.3741	.7422	147
ISCE	2.0816	.7809	147
GIBILL	.9592	.1985	147
EPASCOL	.7891	.4997	147
EPASVOC	.4354	.5742	147
D1	.0816	.2747	147
D2	.0544	.2276	147
D3	.0680	.2527	147
D4	.3333	.4730	147
D5	.0544	.2276	147
EDAT	2.7891	2.8120	147

Correlation Coefficients

CORRELATION COEFFICIENTS

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

	ISVT	ISCE	GIBILL	EPASCOL	EPASVOC	D1
ISVT	1.00000	.13604	.05787	-.09975	.08124	.05073
ISCE	.13604	1.00000	.15418	.21994	-.06453	.06451
GIBILL	.05787	.15418	1.00000	.18878	.03678	.06150
EPASCOL	-.09975	.21994	.18878	1.00000	.10733	.07636
EPASVOC	.08124	-.06453	.03678	.10733	1.00000	.03367
D1	.05073	.06451	.06150	.07636	.03367	1.00000
D2	.12191	.09044	.04949	.04137	-.07772	-.07153
D3	.15555	.21468	.05573	.06015	-.06391	-.08055
D4	.13007	-.18544	.07293	-.04829	.11768	-.21082
D5	.04082	.12898	.04949	.04137	.02709	-.07153
EDAT	.00525	.26368	.15623	.11436	-.20151	.06676

	D2	D3	D4	D5	EDAT
ISVT	.12191	.15555	.13007	.04082	.00525
ISCE	.09044	.21468	-.18544	.12898	.26368
GIBILL	.04949	.05573	.07293	.04949	.15623
EPASCOL	.04137	.06015	-.04829	.04137	.11436
EPASVOC	-.07772	-.06391	.11768	.02709	-.20151
D1	-.07153	-.08055	-.21082	-.07153	.06676
D2	1.00000	-.06482	-.16964	-.05755	-.08895
D3	-.06482	1.00000	-.19104	-.06482	.18422
D4	-.16964	-.19104	1.00000	-.16964	-.09612
D5	-.05755	-.06482	-.16964	1.00000	.06086
EDAT	-.08895	.18422	-.09612	.06086	1.00000

Mean, Standard Deviation, Number of Cases

DEPENDENT VARIABLE.. EDAT

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	BETA	STD ERROR B	F
ISVT	-.3521836-001	-.00930	.32330	.012
ISCE	.7011435	.19470	.30960	5.129
GIBILL	1.690410	.11935	1.15969	2.125
EPASCOL	.3469151	.06165	.47140	.542
EPASVOC	-.9840959	-.20095	.39591	6.178
D1	.4832783	.04722	.86498	.312
D2	-1.493796	-.12092	1.03892	2.067
D3	1.270625	.11416	.96293	1.741
D4	-.1430527	-.02406	.54179	.070
D5	.4057806	.03285	1.02755	.156
(CONSTANT)	-.7250642-001			

MULTIPLE R	.39589
R SQUARE	.15673
ADJUSTED R SQUARE	.09473
STANDARD ERROR	2.67549

ANALYSIS OF VARIANCE	DF
REGRESSION	10.
RESIDUAL	136.

SUM OF SQUARES	MEAN SQUARE	F
180.94147	18.09415	2.52774
973.52112	7.15824	

Multiple Regression Summary Table

DEPENDENT VARIABLE.. EDAT

VARIABLE

ISVT
ISCE
GIBILL
EPASCOL
EPASVOC
D1
D2
D3
D4
D5
(CONSTANT)

SUMMARY TABLE

MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
.00525	.00003	.00003	.00525	-.3521836-001	-.00930
.26549	.07048	.07046	.26368	.7011435	.19470
.29062	.08446	.01398	.15623	1.690410	.11935
.29270	.08567	.00121	.11436	.3469151	.06165
.35150	.12355	.03788	-.20151	-.9840959	-.20095
.35474	.12584	.00229	.06676	.4832783	.04722
.37783	.14275	.01691	-.08395	-1.493796	-.12092
.39358	.15491	.01215	.18422	1.270625	.11416
.39467	.15577	.00086	-.09612	-.1430527	-.02406
.39589	.15673	.00097	.06086	.4057806	.03285
				-.7250642-001	

Appendix E-5

Computer Output for Socioeconomic Status/Family Background Educational Aspirations, Educational/Academic Military Factors and Educational Attainment

Multiple Regression Summary Table

VARIABLE	MEAN	STANDARD DEV	CASES
HSGP	5.0642	1.2511	296
MEAFS	4.1689	1.2011	296
EPASVOC	.4358	.5424	296
MED	3.0946	1.4973	296
APTI	1.8581	.6841	296
D1	.0169	.1291	296
D2	.1892	.3923	296
D3	.0270	.1624	296
D4	.0034	.0581	296
D5	.1216	.3274	296
D6	.0811	.2734	296
D7	.0473	.2126	296
D8	.1115	.3153	296
D9	.0608	.2394	296
D10	.0236	.1522	296
D11	.0169	.1291	296
D12	.0338	.1810	296
D13	.0270	.1624	296
D14	.4257	.4953	296
D15	.2973	.4578	296
D16	.1588	.3661	296
D17	.0507	.2197	296
D18	.7500	.4337	296
EDAT	2.8378	2.8890	296

Correlation Coefficients

CORRELATION COEFFICIENTS

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

	HSGP	MEAFS	EPASVOC	MED	APTI	D1
HSGP	1.00000	.21609	-.12629	.09627	.30774	-.09069
MEAFS	.21609	1.00000	-.21747	.18335	.25207	-.01847
EPASVOC	-.12629	-.21747	1.00000	-.07598	-.04291	.08817
MED	.09627	.18335	-.07598	1.00000	.08927	-.04337
APTI	.30774	.25207	-.04291	.08927	1.00000	-.08793
D1	-.09069	-.01847	.08817	-.04337	-.08793	1.00000
D2	-.02482	-.06086	.02540	.06753	.03721	-.06332
D3	.05815	-.00610	.05823	-.01055	-.02638	-.02185
D4	-.00299	-.05676	-.04686	-.00368	.01210	-.00763
D5	-.01085	-.03518	-.01316	-.12727	.13786	-.04878
D6	.08383	.05105	.01236	.13024	.07984	-.03894
D7	.06500	.07480	-.00298	.09237	.02299	-.02921
D8	.11071	-.09466	.03208	-.15886	-.00499	-.04643
D9	.00956	.03489	-.17870	.09739	.05287	-.03335
D10	-.02580	.03370	-.00208	.07940	.06489	-.02040
D11	-.06970	.04713	.03975	.07940	-.01115	-.01718
D12	-.06949	.08282	-.11597	.07573	.01147	-.02451
D13	.02479	.02865	-.09567	-.09417	-.05689	-.02185
D14	-.18647	-.00162	.08944	-.06820	-.08126	-.00681
D15	.20920	.29056	-.23686	.11213	.24338	.02945
D16	.06648	-.06121	-.02532	-.03368	-.26167	-.05695
D17	-.07353	-.03255	.04161	-.22071	-.15499	.08924
D18	.02342	.05531	-.01081	.13571	.33703	.01514
EDAT	.16513	.30393	-.18406	.16029	.12211	-.08353

	D2	D3	D4	D5	D6	D7
HSGP	-.02482	.05815	-.00299	-.01085	.08383	.06500
MEAFS	-.06086	-.00610	-.05676	-.03518	.05105	.07480
EPASVOC	.02540	.05823	-.04686	-.01316	.01236	-.00298
MED	.06753	-.01055	-.00368	-.12727	.13024	.09237
APTI	.03721	-.02638	.01210	.13786	.07984	.02299
D1	-.06332	-.02185	-.00763	-.04878	-.03894	-.02921
D2	1.00000	-.08051	-.02812	-.17974	-.14349	-.10763
D3	-.08051	1.00000	-.00970	-.06202	-.04951	-.03714
D4	-.02812	-.00970	1.00000	-.02166	-.01729	-.01297
D5	-.17974	-.06202	-.02166	1.00000	-.11053	-.08291
D6	-.14349	-.04951	-.01729	-.11053	1.00000	-.06619
D7	-.10763	-.03714	-.01297	-.08291	-.06619	1.00000
D8	-.17111	-.05904	-.02062	-.13181	-.10522	-.07893
D9	-.12291	-.04241	-.01482	-.09468	-.07558	-.05670
D10	-.07518	-.02594	-.00906	-.05791	-.04623	-.03468
D11	-.06332	-.02185	-.00763	-.04878	-.03894	-.02921
D12	-.09032	-.03116	-.01089	-.06958	-.05554	-.04166
D13	-.08051	-.02778	-.00970	-.06202	-.04951	-.03714
D14	-.08440	-.01708	-.05012	.01412	.01962	-.09526
D15	-.03111	-.01725	-.03787	-.01589	-.00366	.02917
D16	.02615	-.01541	-.02530	-.07682	-.06132	-.00971
D17	-.07228	.05648	-.01345	.00828	-.01220	-.05148
D18	.03984	.00000	.03361	.09548	.08575	.01838
EDAT	-.03864	-.01230	.02346	.11768	-.03050	.04564

CORRELATION COEFFICIENTS

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

	D8	D9	D10	D11	D12	D13
HSGP	.11071	.00956	-.02580	-.06970	-.06949	.02479
MEAFS	-.09466	.03489	.03370	.04713	.08282	.02865
EPASVOC	.03208	-.17870	-.00208	.03975	-.11597	-.09567
MED	-.15886	.09739	.07940	.07940	.07573	-.09417
APTI	-.00499	.05287	.06489	-.01115	.01147	-.05689
D1	-.04643	-.03335	-.02040	-.01718	-.02451	-.02185
D2	-.17111	-.12291	-.07518	-.06332	-.09032	-.08051
D3	-.05904	-.04241	-.02594	-.02185	-.03116	-.02778
D4	-.02062	-.01482	-.00906	-.00763	-.01089	-.00970
D5	-.13181	-.09468	-.05791	-.04878	-.06958	-.06202
D6	-.10522	-.07558	-.04623	-.03894	-.05554	-.04951
D7	-.07893	-.05670	-.03468	-.02921	-.04166	-.03714
D8	1.00000	-.09013	-.05513	-.04643	-.06624	-.05904
D9	-.09013	1.00000	-.03960	-.03335	-.04758	-.04241
D10	-.05513	-.03960	1.00000	-.02040	-.02910	-.02594
D11	-.04643	-.03335	-.02040	1.00000	-.02451	-.02185
D12	-.06624	-.04758	-.02910	-.02451	1.00000	-.03116
D13	-.05904	-.04241	-.02594	-.02185	-.03116	1.00000
D14	.06410	.06684	.04588	-.00681	-.00971	.02505
D15	-.08950	.02006	.04470	.02945	.12384	.02833
D16	-.00704	-.03319	-.00678	-.05695	-.03008	.09860
D17	-.03290	-.05879	.06541	-.03029	.04205	.05648
D18	.03099	.04897	-.01284	.07568	-.02159	-.14434
EDAT	.00875	-.01510	.02417	-.01990	.14666	-.01952

	D14	D15	D16	D17	D18	EDAT
HSGP	-.18647	.20920	.06648	-.07353	.02342	.16513
MEAFS	-.00162	.29056	-.06121	-.03255	.05531	.30393
EPASVOC	.08944	-.23686	-.02532	.04161	-.01081	-.18406
MED	-.06820	.11213	-.03368	-.22071	.13571	.16029
APTI	-.08126	.24338	-.26167	-.15499	.33703	.12211
D1	-.00681	.02945	-.05695	.08924	.01514	-.08353
D2	-.08440	-.03111	.02615	-.07228	.03984	-.03864
D3	-.01708	-.01725	-.01541	.05648	.00000	-.01230
D4	-.05012	-.03787	-.02530	-.01345	.03361	.02346
D5	.01412	-.01589	-.07682	.00828	.09548	.11768
D6	.01962	-.00366	-.06132	-.01220	.08575	-.03050
D7	-.09526	.02917	-.00971	-.05148	.01838	.04564
D8	.06410	-.08950	-.00704	-.03290	.03099	.00875
D9	.06684	.02006	-.03319	-.05879	.04897	-.01510
D10	.04588	.04470	-.00678	.06541	-.01284	.02417
D11	-.00681	.02945	-.05695	-.03029	.07568	-.01990
D12	-.00971	.12384	-.03008	.04205	-.02159	.14666
D13	.02505	.02833	.09860	.05648	-.14434	-.01952
D14	1.00000	-.55998	-.03752	.05031	-.02367	-.08900
D15	-.55998	1.00000	.10167	-.08288	-.01707	.22109
D16	-.03752	.10167	1.00000	-.10038	-.75251	-.01724
D17	.05031	-.08288	-.10038	1.00000	-.40018	-.05110
D18	-.02367	-.01707	-.75251	-.40018	1.00000	.04058
EDAT	-.08900	.22109	-.01724	-.05110	.04058	1.00000

Multiple Regression Results

DEPENDENT VARIABLE.. EDAT

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	BETA	STD ERROR B	F
HSGP	.1829381	.07922	.14321	1.632
MEAFS	.5531522	.22996	.15036	13.534
EPASVOC	-.3902798	-.07327	.31798	1.506
MED	.2231448	.11565	.11630	3.682
APTI	-.1568329	-.03713	.27964	.315
D1	-1.104543	-.04935	1.27803	.747
D2	.2472022	.03357	.50141	.243
D3	.2349731	.01321	1.02339	.053
D4	2.300702	.04629	2.76855	.691
D5	1.521359	.17241	.58024	6.875
D6	-.2015393	-.01907	.66356	.092
D7	.5037245	.03707	.80952	.387
D8	.8091916	.08830	.59331	1.860
D9	-.1862368	-.01543	.74609	.062
D10	.4999764	.02634	1.09917	.207
D11	-.4116649	-.01839	1.27610	.104
D12	1.931623	.12100	.94308	4.195
D13	-.1228818	-.00691	1.02959	.014
D14	.3332486-001	.00571	.40989	.007
D15	.7585320	.12021	.47775	2.521
D16	-.2784996	-.03529	.90288	.095
D17	-.2240774	-.01704	1.08439	.043
D18	-.1694900	-.02545	.83200	.041
(CONSTANT)	-1.061127			

MULTIPLE R	.42800
R SQUARE	.18318
ADJUSTED R SQUARE	.11411
STANDARD ERROR	2.71920

ANALYSIS OF VARIANCE	DF
REGRESSION	23.
RESIDUAL	272.

SUM OF SQUARES	MEAN SQUARE	F
451.03147	19.61006	2.65214
2011.18475	7.39406	

Multiple Regression Summary Table

DEPENDENT VARIABLE.. EDAT

VARIABLE

HSGP
MEAFS
EPASVOC
MED
APTI
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
D16
D17
D18
(CONSTANT)

SUMMARY TABLE

MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
.16513	.02727	.02727	.16513	.1829381	.07922
.32054	.10275	.07548	.30393	.5531522	.22996
.33980	.11547	.01272	-.18406	-.3902798	-.07327
.35334	.12485	.00938	.16029	.2231448	.11565
.35400	.12531	.00046	.12211	-.1568329	-.03713
.35838	.12844	.00312	-.08353	-1.104543	-.04935
.35967	.12936	.00092	-.03864	.2472022	.03357
.35984	.12949	.00013	-.01230	.2349731	.01321
.36117	.13044	.00096	.02346	2.300702	.04629
.38486	.14812	.01767	.11768	1.521359	.17241
.38839	.15085	.00273	-.03050	-.2015393	-.01907
.38867	.15106	.00022	.04564	.5037245	.03707
.39317	.15458	.00352	.00875	.8091916	.08830
.39521	.15619	.00161	-.01510	-.1862368	-.01543
.39547	.15640	.00020	.02417	.4999764	.02634
.39635	.15709	.00070	-.01990	-.4116649	-.01839
.41501	.17223	.01514	.14666	1.931623	.12100
.41507	.17228	.00005	-.01952	-.1228818	-.00691
.41888	.17546	.00318	-.08900	.3332486-001	.00571
.42761	.18285	.00739	.22109	.7585320	.12021
.42782	.18303	.00018	-.01724	-.2784996	-.03529
.42785	.18306	.00002	-.05110	-.2240774	-.01704
.42800	.18318	.00012	.04058	-.1694900	-.02545
				-1.061127	

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